HOME APPLIANCE ENERGY EFFICIENCY STANDARDS UNDER THE DEPARTMENT OF ENERGY: STAKEHOLDER PERSPECTIVES

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

OF THE

COMMITTEE ON ENERGY AND COMMERCE

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C O N T E N T S

WITNESSES

SUBMITTED MATERIAL

HOME APPLIANCE ENERGY EFFICIENCY STANDARDS UNDER THE DEPARTMENT OF ENERGY: STAKEHOLDER PERSPECTIVES

FRIDAY, JUNE 10, 2016

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY AND POWER,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 9:34 a.m., in room 2123, Rayburn House Office Building, Hon. Ed Whitfield (chairman of the subcommittee) presiding.

Members present: Representatives Whitfield, Olson, Shimkus, Latta, Harper, McKinley, Johnson, Long, Flores, Mullin, Hudson, Rush, McNerney, Tonko, Castor, Sarbanes, Welch, and Pallone (ex officio).

Staff present: Will Batson, Legislative Clerk, Energy and Power; Tom Hassenboehler, Chief Counsel, Energy and Power; A.T. Johnston, Senior Policy Advisor; Ben Lieberman, Counsel, Energy and Power; Tim Pataki, Professional Staff Member; Annelise Rickert, Legislative Associate; Chris Sarley, Policy Coordinator, Environment and the Economy; Dan Schneider, Press Secretary; Dylan Vorbach, Deputy Press Secretary; Jeff Carroll, Democratic Staff Director; Jean Fruci, Democratic Energy and Environment Policy Advisor; Rick Kessler, Democratic Senior Advisor and Staff Director, Energy and Environment; John Marshall, Democratic Policy Coordinator; Jessica Martinez, Democratic Outreach and Member Services Coordinator; Alexander Ratner, Democratic Policy Analyst; Timothy Robinson, Democratic Chief Counsel; Andrew Souvall, Democratic Director of Communications, Outreach, and Member Services; and Tuley Wright, Democratic Energy and Environment Policy Advisor.

Mr. WHITFIELD. I would like to call the hearing to order this morning, and I want to thank our panel of witnesses for being with us. I am going to introduce you right before you give your opening statements, so I will just introduce you individually at that time. I would like to recognize myself for 5 minutes for an opening statement.

OPENING STATEMENT OF HON. ED WHITFIELD, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF KENTUCKY

Today's hearing is entitled "Home Appliance Energy Efficiency Standards." Since 1987, we have had energy efficiency standards

for certain appliances. It came about because back in 1975, there was a Federal Energy Policy Act that established that format. The Reagan administration was sued because it was not being implemented, and as a result that lawsuit, we now found ourselves in about the fifth or sixth gyration of these energy efficiency standards, which apply to almost anything that plugs into the wall in your home, whether it is an air conditioner, refrigerator, washer, dryer, furnace, oven, dishwasher, water heater, lighting, whatever it might be. And the argument was initially that you would save energy bills over time. Because of the efficiency, you would use less electricity, and the small amount of additional cost, you would end up saving money.

Now, some people today are questioning that because we are, as I said, we are about the fifth, sixth, or seventh round of these efficiency standards, and some people say that you reach a point of diminishing returns, and some people say that the additional costs now is at such a rate that you really don't have any savings over the long term because the energy efficiencies are simply not that great.

Now, other people say that is not the case. And of course, additionally, now, everybody is talking about global warming, and so there is additional emphasis being placed on this because of that.

One of the problems that we have is, in America, we feel like we are doing more than any other country in the world on these types of issues. I was reading an article the other day that said there are 3 billion people in the world who use open flames to cook today, and in the developing world, by 2040, they expect that 65 percent of energy consumption will come from the developing world.

We also hear a lot today about people being concerned about the cost of living. And we know that in California and New York, they are trying to raise the minimum wage, and many people are urging that we raise the minimum wage. Some people agree with that and some people don't, but it is interesting that those strong advocates for raising the minimum wage, they don't want to consider the additional cost caused by regulations. And it is one thing to say, OK, we need to raise the minimum wage, but to a low-income, middle-class family, if these appliances are going to cost additional money, what does that mean to their pocketbook?

And then, we are even hearing now from some of the appliance makers that some of these new appliances really don't work as well as the old ones, and so it is a situation where I think no one really expected that the Department of Energy and this administration would be as aggressive as they have been on so many different fronts.

Now, the good news was that in 1975, when they were considering these efficiency standards, they were supposed to consider that the technology was really feasible and that there was an economic justification for it. But today, that is beginning to be blurred, and we know certainly at EPA, when they consider—they certainly don't consider whether it is technologically feasible or economically justified.

So if we wanted to have a more balanced approach, what we are trying to do is hear from people who are involved in this on a daily basis because the American public, when they go to the appliance

store to buy an appliance, they don't understand all about this efficiency, they just know what the price is, and then some people are telling them, well, you going to save money even though it is a lot more because the electricity will go down, and other people make the other argument.

So one of our objectives today is to just try to get a better understanding of what is the reality of this, and that is why we are here. So I want to thank all of you for joining us, and at this time, I would like to introduce the distinguished gentleman from Illinois, Mr. Rush, for his opening statement.

[The prepared statement of Mr. Whitfield follows:]

PREPARED STATEMENT OF HON. ED WHITFIELD

This subcommittee has cast a critical eye on several major regulations—such as the ozone rule and the Clean Power Plan—that threaten billions of dollars in costs and thousands of jobs. But today, we focus on regulations that are significant for another reason—they directly impact the daily lives of every American. Done right, appliance standards can help us save on energy bills, but done wrong they can cause appliance prices to skyrocket while also undermining product quality and freedom of choice. And lately, we have seen many appliance standards done wrong.

Air conditioners, refrigerators, washer/dryers, furnaces, ovens, dishwashers, water heaters, lighting and many others—just about everything that plugs in or fires up around the house has been subjected to these rules since 1987. The first round of standards may have been ok, and maybe even the second, but DOE is now onto the 3rd of 4th or even 5th round of successively tighter requirements for many appliances, and there is no end in sight. It is as if the agency is out to prove the law of diminishing marginal returns.

According to DOE, the higher up-front costs of compliant products are earned back in the form of energy savings, but a number of outside analysts are not so sure. Furthermore, some of these standards compromise product choice, features, performance, or reliability. In my view, an appliance that saves a few dollars per year on energy but doesn't work as well is being penny wise and pound foolish.

And, like so many other energy-related programs, DOE's appliance standards are being made even more consumer-unfriendly by the inclusion of global warming considerations. Although the statutory provisions never specify that global warming should be a factor, DOE now includes the social cost of carbon in its analysis of every rule. In fact, the President's Climate Action Plan calls for appliance regulations to reduce carbon emissions by 3 billion tons, and I might add that this arbitrary target was set without any regard to whether consumers will benefit from these new standards. In order to meet its global warming goals before the end of the administration, DOE is now rushing the pace of these rulemakings and cutting corners on stakeholder input.

According to the administration, DOE has 15 more home appliance standards in the regulatory pipeline, including ones for computers, light bulbs, air conditioners, ovens, furnaces, battery chargers, dishwashers, and ceiling fans. History shows that these so-called "midnight regulations" pushed out the door in the final months of an administration can be especially bad news for consumers. This includes a rule for air conditioners finalized at the very end of the Clinton administration that added more than $700 to their cost. Of course, the disproportionate victims of appliance price hikes are low-income households that can least afford them.

As many of you know, the energy bill contained a number of useful reforms to the appliance rulemaking process as well as some specific fixes for certain problematic rules. This includes additional opportunities for stakeholder input, as well as the requirement that the data and analysis relied upon by DOE be available for review. A discussion of these provisions will of course be a part of the upcoming energy conference.

But I hope the reform efforts do not end there, and that we can consider more fundamental reforms that restore common sense and balance to the appliance efficiency standards program.

OPENING STATEMENT OF HON. BOBBY L. RUSH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. RUSH. Good morning. I want to thank you, Mr. Chairman, for holding today's hearing on the "Home Appliance Energy Efficiency Standards Under the Department of Energy: Stakeholder Perspectives," and I want to welcome, Mr. Chairman, all of our witnesses before the subcommittee here today.

Mr. Chairman, since there are DOE standards that we are addressing here today, I think that it would definitely benefit the members of the subcommittee to also hear from the agency directly, and I hope that we can invite them to testify on this issue at a near date in the near future.

Mr. Chairman, historically, energy efficiency has proven to mean the low hanging fruit that has brought both parties together legislatively, while also making our country safer, more secure, and more attentive to the impacts of climate change.

Indeed, the story of energy efficiency, Mr. Chairman, is one that is filled with success stories that really help prepare our country forward by making us more independent and more secure, while also reducing the cost of energy, both in our pocketbooks, and its impact to our environment. In fact, Mr. Chairman, by DOE's own estimation, American families save close to $63 billion as a result of their energy bills going down, and this is a result of these appliance standards that we are considering just in the year 2015 alone.

The agency also forecast, Mr. Chairman, that standards issued since 2009 will save the American consumer over $53 billion in utility cost, and decrease common emissions by 2.3 billion metric tons by the year 2030.

Mr. Chairman, in addition to the huge energy savings and the benefits to the environment, appliance and equipment standards also lead to additional investments in the workforce and the ultimate creation of jobs. A 2011 report by the American Council for an Energy Efficient Economy entitled, and I quote, "Appliance and equipment efficiency standards are a money maker and a job creator," end of quote, found that the efficiency standards led to net job creation in every single State. The study also found that by 2020, appliance and equipment standards will contribute up to 387,000 annual jobs to the U.S. economy.

Mr. Chairman, while almost every effort by DOE to establish or revise energy efficiency standards has been met with some type of opposition, traditionally, this issue has been pursued in what I will commend on both sides of this committee—subcommittee on, they have been presumed in a bipartisan manner with contributions to the party put forward by our President's and my past congressmen, even though those congressmen and the White House had been under the control of both Republicans and Democrats. It is my hope, Mr. Chairman, that following today's hearing, we will ultimately get back to that type of collaboration and that type of cooperation on this issue.

Mr. Chairman, it is critically important that the Federal Government maintains its leadership role of promoting, encouraging, and enticing interested stakeholders to continue with the progress that has already been made in efficiency technologies so that we can continue to keep moving the Nation's energy policy forward.

Mr. Chairman, I want to end by saying I look forward to today's hearing. I am looking forward to our expert witnesses on the successes and the challenges that are facing this Nation as it relates to energy efficiency appliance, and with that, I yield back.

Mr. WHITFIELD. The gentleman yields back. At this time I recognize the gentleman from Illinois, Mr. Shimkus, for 5 minutes.

OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. SHIMKUS. Thank you, Mr. Chairman, and welcome. It is important to hear from stakeholders because the stories that we weave here may not always really reflect the real world, and we are hoping that you will give us what is going on on the ground. And so I am going to weave a little story to put this all in perspective, too.

Congressman Bost and I met with a small manufacturer about 2 months ago, and their—subject to a DOE enforcement case, and, of course, because of the enforcement case, they even told to stop selling a piece of equipment. This company spent several months trying to find out why a third—they and a third party lab that tested the product, why they met the standard and why when DOE got their hands on it, they didn't meet the standard.

So DOE tested that the product, 7 months later, and not only—and I will weave the story why DOE came to a different conclusion, but it is also under a new regulation than when the product was originally produced. So here is this fraud in, catch-22 world in which you all have to try to live in to try to catch up, after a product has been manufactured, to a new regulation, and then face the heavy hand of the Federal Government.

So the company was not aware of section 2.11 because it was not included in the proposed rulemaking. It was two lines in a large rule previously represented as not materially altering efficiency measures. This piece of equipment did not pass the automatic test, but it did pass the manual test. So this is a piece of equipment that you can operate manually, or you can hook up a thermostat and operate automatically. It did meet the standards for the manual test. It didn't meet the test for the automatic.

DOE would never tell them why they failed the test until months later, even when they asked for transparency, show us your work, tell us what you are doing.

So this is a crazy world in which we live in. The Federal Government is there to help, not punish. The Federal Government is there to, if they want to have efficiency and they want to encourage movement forward, they should be incenting. They should not—so this small company, it is a small company, has a proposed $241,000 penalty, because DOE is now saying that they knowingly, knowingly kind of jimmied the efficiency standards where the equipment met the manual standard, didn't meet the automatic standard.

Of course, when you fall into this regime, you can't sell your product. It is banned from being sold until this conflict gets resolved. Small companies just can't survive this type of work. It would be best, as we hear, I am sure, similar stories about the struggles of maintaining it, businesses' goal is to help to raise cap-

ital, assume risk, hoping to get a return, and while they are doing that, they create jobs.

If the Government—we just want the Government to be fair players in this system. If we are going to create these new standards, give industry a chance to meet them, and don't play games of delay by not working with the industry and then telling them why they failed to meet the standard, or changing the rules for automatic or manual-type systems. So I am really looking forward to the hearing. I think it is very, very important, and I have got questions, when we come to it, on—to address the jobs debate, which I think people find pretty problematic that these are now causing the loss of jobs in our country, and I yield back my time.

Mr. WHITFIELD. The gentleman yields back. At this time I recognize the gentleman from New Jersey, Mr. Pallone, for 5 minutes.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Mr. Chairman. The Appliance and Equipment Efficiency Standards Program at the Department of Energy has been incredibly successful over the years in reducing energy consumption and lowering consumers' energy bills. The program has also been beneficial to manufacturers, making energy saving products more ubiquitous and leaving the playing field—leveling, I should say, the playing field nationally.

In fact, efficiency standards for consumer appliances and other products likely constitute the single most effective Federal effort to reduce energy consumption in the United States. According to the Energy Department, Americans save $63 billion on their utility bills last year because of these standards, and this has also resulted in avoiding 2.6 billion tons of carbon dioxide emissions, which would equal the annual level of emissions from roughly 543 million vehicles.

These figures are staggering and highlight the dual benefits of this important program. Consumers save money, and our environment is spared billions of tons of pollution every year. And all of this began with enactment of the Energy Policy and Conservation Act, EPCA, which was signed into law by Republican President Gerald Ford. I highlight "Republican." This apparently started a trend because with the exception of an amendment to the statute directing DOE to establish efficiency standards for consumer products under the Carter administration, every major expansion of the appliance efficiency standards program has been signed into law by a Republican president.

So while some of our witnesses and my colleagues on the other side of the aisle may lament the long list of appliance standards proposed by the Obama administration, they should remember that, depending on your point of view, much of the credit or blame for the Obama standards can be traced back to two laws signed by President George W. Bush, the Energy Policy Act of 2005, and the Energy Independence and Security Act of 2007.

And while the 2007 Act was passed by a Democratic Congress, the Energy Policy Act of 2005 was borne out of a fully Republican Congress and authored by the former Republican chairman of this

committee. I don't know why I have to keep saying "fully Republican Congress." That is obviously not what I like, but the fact of the matter is that, that most of this legislation was done by Republican Congress and Presidents, and this underscores an important fact: For the past 40 years, energy efficiency has been a bipartisan issue where Republicans and Democrats have come together to reduce energy consumption and save consumers money.

Times have changed, obviously. Certainly, there are a few Republicans who still understand the importance of energy efficiency. Mr. McKinley has worked with Mr. Welch to demonstrate that bipartisanship in this area is still alive to some degree. Yet regrettably, that seems to be the only Republican support for major efficiency legislation in this Congress. Consider the recent House vote to go to conference on an energy package that would actually increase consumption by rolling back efficiency. Again, how times have changed.

Could the efficiency-standard-setting process use improvement? Of course it could, because there is always room for improvement, despite a revisionist view that disputes over efficiency standards are a new development, the fact is that the standard-setting process has always yielded some controversy from one industry participant or another. But these controversies were generally worked out, and the results were better products, more efficiency, and often useful changes to the standard setting process.

My concern is that improvement simply may not be possible in this current Congress. Last year, when we were working to forge a bipartisan compromise on furnace standards, the less and forthright positions taken by certain stakeholders made me question the sincerity of the so-called reform efforts. Perhaps it is just a matter of perspective. What some stakeholders view as minor tweaks, look an awful lot to me like a thorough gutting of the standards program.

So ultimately, I believe a serious, successful energy policy for our Nation must address demand, not just supply. Improving the use of the resources we have to get more from less is common sense, and that is why efficiency has traditionally been a concept that brought parties together. And Mr. Chairman, I just hope that one day we will see that again. It doesn't seem like today is the day. So thank you. I yield back.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

Thank you, Mr. Chairman.

The appliance and equipment efficiency standards program at the Department of Energy (DOE) has been incredibly successful over the years in reducing energy consumption and lowering consumers' energy bills. The program has also been beneficial to manufacturers, making energy saving products more ubiquitous and leveling the playing field nationally.

In fact, efficiency standards for consumer appliances and other products likely constitute the single most effective Federal effort to reduce energy consumption in the U.S. According to the Energy Department, Americans saved $63 billion on their utility bills last year because of these standards. And this has also resulted in avoiding 2.6 billion tons of carbon dioxide emissions, which would equal the annual level of emissions from roughly 543 million vehicles. These figures are staggering, and highlight the dual benefits of this important program. Consumers save money, and our environment is spared billions of tons of pollution every year.

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The Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. And, while the 2007 Act was passed by a Democratic Congress, the Energy Policy Act of 2005 was born out of a fully Republican Congress and authored by the former Republican chairman of this committee.

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Yet regrettably, that seems to be the only Republican support for major efficiency legislation in this Congress. Consider the recent House vote to go to conference on an energy package that would actually increase consumption by rolling back efficiency. Again, how times have changed.

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I'm concerned that improvements simply may not be possible in this current Congress. Last year, when we were working to forge a bipartisan compromise on furnace standards, the less than forthright positions taken by certain stakeholders made me question the sincerity of so-called "reform" efforts. Perhaps it's just a matter of perspective: what some stakeholders view as "minor tweaks" look an awful lot to me like a thorough gutting of the standards program.

Ultimately, I believe a serious, successful energy policy for our Nation must address demand, not just supply. Improving the use of the resources we have—to get more from less- is common sense. That's why efficiency has traditionally been a concept that brought both parties together—and, Mr. Chairman, I hope it will again one day soon.

Mr. WHITFIELD. The gentleman yields back, and that concludes the opening statements on our side.

So at this time, our first witness will be Ms. Sofie Miller, who is the senior policy analyst at the George Washington University Regulatory Studies Center. So, Ms. Miller, thanks for being with us, and you will be given 5 minutes, and just make sure the microphone is on and it is up close to you so we can hear every single word that you say. And you are recognized for 5 minutes.

STATEMENTS OF SOFIE E. MILLER, SENIOR POLICY ANALYST, THE GEORGE WASHINGTON UNIVERSITY REGULATORY STUDIES CENTER; JOSEPH M. MCGUIRE, PRESIDENT AND CHIEF EXECUTIVE OFFICER, ASSOCIATION OF HOME APPLIANCE MANUFACTURERS; ELIZABETH NOLL, LEGISLATIVE DIRECTOR, ENERGY AND TRANSPORTATION, NATURAL RESOURCES DEFENSE COUNCIL; KEVIN J. COSGRIFF, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION; TOM ECKMAN, DIRECTOR, POWER DIVISION, NORTHWEST POWER AND CONSERVATION COUNCIL; AND STEPHEN R. YUREK, PRESIDENT AND CHIEF EXECUTIVE OFFICER, AIR-CONDITIONING, HEATING AND REFRIGERATION INSTITUTE

STATEMENT OF SOFIE E. MILLER

Ms. MILLER. Well, thank you very much, Chairman Whitfield and Ranking Member Rush and members of the subcommittee for inviting me to share my expertise today. I appreciate the subcommittee's interest in the Department of Energy's energy conservation program as well as opportunities for Congress to improve it.

I am the senior policy analyst at the George Washington University Regulatory Studies Center, where I analyze the effects of regulation on public welfare, including the effects of DOE's energy efficiency standards on consumers specifically.

Through my research, I have identified ways in which these standards can harm consumers rather than benefiting them by limiting the products available and removing from the market appliances that might best suit their needs.

DOE's energy efficiency standards regulate appliances used in most households such as dishwashers, air conditioners, and refrigerators, and as a result, they affect almost all U.S. consumers. These standards increase the prices of common appliances in exchange for reducing consumers' energy and water bills in the future.

While DOE does estimate that consumers receive large net benefits from this tradeoff, it does not take into account the diversity of Americans, or that U.S. households have very different needs and preferences when it comes to household appliances. As a result, one-size-fits-all energy efficiency standards can deprive consumers of the ability to make purchases that best suit their circumstances and constraints, and in such cases, these regulations are a cost to consumers rather than a benefit.

For example, efficient dishwashers or clothes dryers save consumers more money in the long term the more frequently they are used and tends not to benefit households with lower frequency of use, which includes couples or single residents, such as the elderly. In proposing energy efficiency standards for clothes washers, DOE calculated large benefits by estimating that a household operates its clothes washer 392 times per year or more than once a day on average.

And while this might be realistic for large families or households with small children, it does not represent every household. In fact, even after accounting for their lower energy bills, the standards

ended up costing the nearly 70 percent of American households that use clothes washers less frequently than six times per week. And to illustrate from personal experience, a very efficient dishwasher made sense for my mother, who has nine children and used to run the dishwasher as much as four times per day, if you can imagine that. But my current household of two, we run the dishwasher twice a week, and in our case, it is not likely that a more efficient and more expensive appliance is going to be worth the investment.

In addition, efficiency standards are particularly costly for low-income households. Wealthier Americans can afford to wait years or even decades to recoup the higher cost of an efficient appliance while poor Americans with less certain streams of income have higher opportunity costs. DOE calculates high benefits by using a relatively low time value of money, which field studies find represents wealthier households.

Changing DOE's model to reflect the actual time value of money to low- and median-income households shows that they encourage large net costs as a result of efficiency standards. When a paycheck has to cover rent, food, and other necessities, a very efficient appliance may not be affordable even if it does reduce electric bills in the future. Many families simply cannot borrow at the 3 percent rates that DOE assumes.

But energy cost savings are not the only justification for these standards, as we have heard, as more efficient appliances can also reduce environmental emissions, but these environmental benefits are typically quite small relative to the cost of the standards. In fact, the costs outweigh these benefits by a factor of three to one. By looking at environmental benefits alone, DOE would not be able to justify the standards that it has set for most appliances.

In sum, the payoff from more efficient appliances will vary depending on a household's income, size, and other characteristics such as geographic location. It is perfectly rational for individual households to prefer to purchase different appliances, including those that do not meet DOE's standards. By taking away those choices and preventing households from buying the appliance that best suits their individual needs, DOE is imposing a cost on consumers and not a benefit. This is particularly true for low- and median-income Americans and the elderly who bear the highest costs of appliance efficiency standards.

Thank you all for your time. I look forward to your questions.

[The prepared statement of Ms. Miller follows:]

THE GEORGE WASHINGTON UNIVERSITY

WASHINGTON, DC

Prepared Statement of Sofie E. Miller

Senior Policy Analyst
The George Washington University Regulatory Studies Center

Hearing on

Home Appliance Energy Efficiency Standards under the Department of Energy– Stakeholder Perspectives

Energy and Commerce Committee

Subcommittee on Energy and Power

United States House of Representatives

June 10, 2016

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Introduction

Thank you Chairman Whitfield, Ranking Member Rush, and Members of the Subcommittee for inviting me to share my research on the effects of the Department of Energy's appliance efficiency standards on consumers. I am Senior Policy Analyst at the George Washington University Regulatory Studies Center,[1] where I analyze the effects of regulation on public welfare. I recently published an analysis of the costs and benefits of energy efficiency standards for appliances issued over the last decade, and identified areas where these standards unfortunately harm consumers by reducing their choices and increasing the prices of new appliances.

I appreciate the Subcommittee's interest in the Department of Energy's (DOE's) Energy Conservation Program, including its effects on consumers and whether there are opportunities for Congress to improve it. My prepared statement includes the following points:

- The pace of regulations setting energy efficiency standards has accelerated during the last decade and is likely to continue. These standards regulate appliances used by most consumers and, because they affect almost all households and incur such large potential benefits and costs, they merit close inspection.
- American households reflect significant diversity and have very different needs and preferences when it comes to appliances regulated by DOE's efficiency standards. As a result, one-size-fits-all energy efficiency standards can deprive consumers of the ability to make purchases that best suit their unique circumstances and constraints. In such cases, these regulations are a cost to consumers rather than a benefit.
- Efficiency standards are particularly costly for low-income households who have different constraints and are less able to benefit from the tradeoff between higher upfront costs and lower long-term energy bills as a result of increased efficiency.
- Although energy efficiency standards are often billed as having substantial environmental benefits, these benefits are relatively small and typically are not sufficient to outweigh the costs to consumers of the standards.

My recent evaluation of the estimated benefits of energy efficiency rules issued 2007 – 2014 is attached as an addendum to this statement, as is my 2015 journal article on the regressive effects of DOE's efficiency standards.

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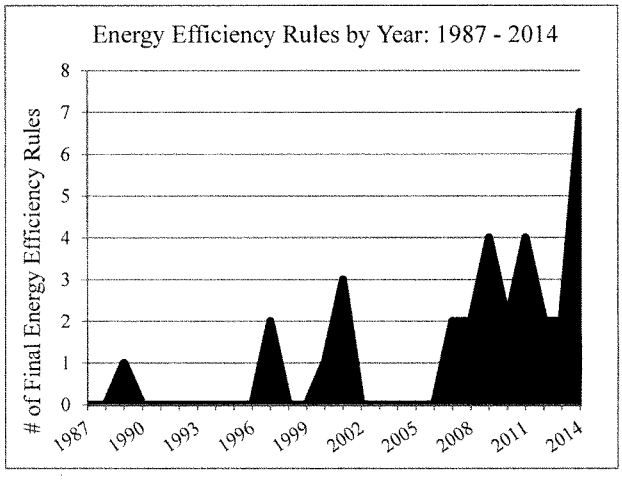
[1] Sofie E. Miller is a Senior Policy Analyst at the George Washington University Regulatory Studies Center, 805 21st St. NW, Suite 612, Washington, DC. Sofie can be reached at [redacted] This testimony reflects the views of the author, and does not represent an official position of the GW Regulatory Studies Center or the George Washington University. The Center's policy on research integrity is available at http://regulatorystudies.columbian.gwu.edu/policy-research-integrity.

Background

The Energy Policy and Conservation Act of 1975 (EPCA) authorizes the U.S. Department of Energy (DOE) to establish energy conservation standards for twenty different categories of covered consumer appliances including refrigerators, freezers, furnaces, dishwashers, clothes dryers, televisions, faucets, and lamps.[2] The number of energy efficiency standards promulgated by DOE has increased rapidly since passage of the Energy Independence and Security Act of 2007 (EISA), which amended the EPCA and required an increase in efficiency standards for energy-using durables (see the figure below).



This figure displays counts of energy efficiency rules finalized by DOE each year between 1987 and 2014. This figure measures only significant rules reviewed by the Office of Information and Regulatory Affairs.

Source: Mannix & Dudley, "The Limits of Irrationality as the Rationale for Regulation." *Journal of Policy Analysis and Management*, Summer 2015.

This increased pace of new standards is expected to continue. The semiannual *Unified Agenda*, published by the Office of Management and Budget (OMB), lists upcoming regulations planned by agencies for the year ahead. The Spring 2016 *Unified Agenda*, issued just last month, reveals an ambitious schedule; it lists three energy efficiency standards from DOE in the pre-rule stage, twelve standards in the proposed rule stage, and thirteen in the final rule stage.[3]

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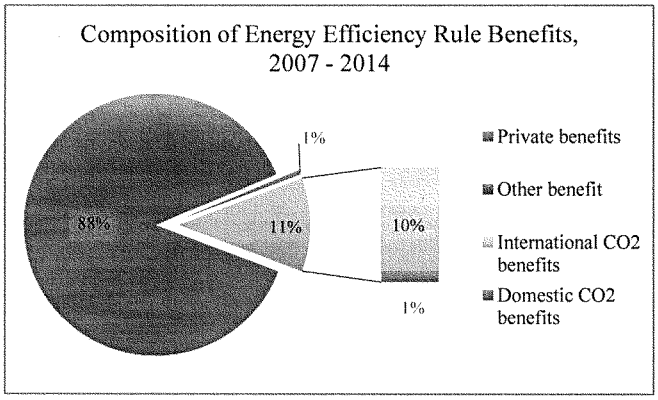
[2] Energy Policy and Conservation Act, as amended, §322 (http://legcounsel.house.gov/Comps/EPCA.pdf)

[3] These counts do not include test procedures or determinations of coverage which, while integral to the promulgation of energy efficiency rules, do not in themselves establish energy conservation standards.

Recently, DOE finalized energy conservation standards for residential dishwashers, microwaves, clothes washers, furnaces, and air conditioners—appliances that most households rely on for everyday tasks. Each of these regulations increases the price of appliances in return for reducing long-term energy and water bills. These standards affect nearly all American households, which means it is very important to examine the rationale behind them, as well as their effects on Americans.

Private Benefits

To justify most of its energy efficiency rule, DOE relies almost entirely on one type of regulatory benefit: the cost savings consumers are estimated to enjoy over the life of a more energy efficient appliance. In a 2015 paper, I found that these "private benefits" constituted 88 percent of all benefits from energy efficiency standards issued between 2007 and 2014.[4] The chart below illustrates the breakdown in benefits that DOE estimates will result from its efficiency standards.



Because this cost saving is a benefit felt only by the private consumer who is buying the appliance, rather than society at large, the benefits that justify DOE's energy efficiency rules are "private benefits" rather than public benefits. This differentiates efficiency rules from the majority of other federal regulations, which have historically relied on public benefits—reducing externalities, such as air pollution—for justification. However, the private benefits of DOE's efficiency rules dwarf the anticipated public benefits, such that most of these rules would not

[4] Sofie E. Miller. *Whose Benefits Are They, Anyway? Examining the Benefits of Energy Efficiency Rules 2007 – 2014*. Washington, DC: The George Washington University Regulatory Studies Center, September 2015. (https://regulatorystudies.columbian.gwu.edu/files/downloads/Examining-Energy-Efficiency-Standards_SMiller-9-2015.pdf)

pass a benefit-cost test if DOE's analysis were to rely on externality benefits alone.[5] The benefits of reducing carbon dioxide (CO_2) emissions constitute 11 percent of the total benefits from these standards. Without the significant private benefits that DOE estimates, the costs of these standards would outweigh the public benefits by $4.6 billion (2010$) annually.[6]

These large private benefits beg the question of why government mandates are required for consumers to enjoy them. This is an important distinction because in many cases consumers already have the option to purchase more efficient, higher-priced appliances before DOE initiates a regulation, indicating that these standards are not motivated by a lack of energy efficient appliances in the market. This also indicates that, when given the option, some consumers are actively choosing not to purchase efficient appliances. Instead of concluding that consumers can benefit from choosing the products that best suit their individual needs, regulators draw on the behavioral economics literature to argue that consumers fail to purchase high-efficiency appliances due to an inability to adequately process information.[7]

In doing so, regulators overlook the possibility that consumers may have legitimate preferences for less-efficient appliances based on household characteristics or other product qualities. By regulating away the option for any consumers to purchase less-efficient appliances, DOE and supporters of efficiency mandates contend that they are improving consumers' choice structure by *removing* choices;[8] but this approach disregards the many legitimate factors, discussed in the section below, that influence consumers' purchasing decisions.

Ignoring Consumer Preferences

People typically consider a number of factors beyond energy efficiency when they make an appliance purchase, including size, ease of use, durability, reliability, speed, or noise level.[9]

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[5] See Sofie E. Miller, *Whose Benefits Are They, Anyway? Examining the Benefits of Energy Efficiency Rules 2007 – 2014*, Washington, DC: The George Washington University Regulatory Studies Center, September 2015, Appendix A. (https://regulatorystudies.columbian.gwu.edu/files/downloads/Examining-Energy-Efficiency-Standards_SMiller-9-2015.pdf)

[6] Sofie E. Miller. *Whose Benefits Are They, Anyway? Examining the Benefits of Energy Efficiency Rules 2007 – 2014*. Washington, DC: The George Washington University Regulatory Studies Center, September 2015. Page 12. (https://regulatorystudies.columbian.gwu.edu/files/downloads/Examining-Energy-Efficiency-Standards_SMiller-9-2015.pdf)

[7] Brian Mannix & Susan E. Dudley, "Point/Counterpoint: Valuing Internalities in Regulatory Impact Analysis," *Journal of Policy Analysis and Management*, Vol. 34, Issue 3. (Summer 2015).

[8] As Mannix & Dudley note: "How much is the average consumer willing to pay in order to be prohibited from buying, for example, an incandescent light bulb? After all, prior to the regulation, not buying the incandescent bulb is free. Why would anyone pay to have that choice imposed on them?" "The Limits of Irrationality as a Rationale for Regulation." *Journal of Policy Analysis and Management* Vol. 34, No. 3, page 707. (2015)

[9] For example, see the survey results in: *Addendum to Public Interest Comment on the Department of Energy's Proposed Clothes Washer Efficiency Standards*. Docket No. EE-RM-94-403. Arlington, VA: Mercatus Center

Despite this, DOE projects large benefits from its product bans by operating under the assumption that a reduction in energy costs over the long term is the primary rational factor that consumers should consider when purchasing appliances and that removing less-efficient products from the market therefore leaves consumers with better options. However, there are many cases in which more efficient appliances aren't the best choice for a household, and in these cases one-size-fits-all efficiency mandates can force consumers to incur large net costs.

Efficient dishwashers or clothes dryers save consumers more money long-term the more frequently they are used. However, investing in efficient—and more expensive—appliances may result in net harm for households with lower frequency-of-use, including couples or single residents such as the elderly. For example, in proposing its energy efficiency standards for clothes washers, DOE calculated large net benefits by estimating that a household operates its clothes washer 392 times per year, or more than once per day on average. While this may be realistic for large families or households with small children, it doesn't represent every household's appliance usage.[10]

By way of illustration: my mother, who has nine children, used to run the dishwasher as frequently as four times a day. Given this frequency-of-use, she may have been able to recoup the higher cost of an efficient dishwasher through reductions in her energy and water bills.[11] On the other hand, my current household of two runs the dishwasher approximately twice a week; in our case, it's not likely that a more efficient—and more expensive—dishwasher will be worth the investment. This illustrates that the payoff from more efficient appliances is unique for individual households, which may explain why different households choose to purchase different appliances. Preventing households from buying the appliance that best suits their individual needs can be a cost to consumers, not a benefit as DOE posits.

There are many reasons why consumers may have legitimately different preferences from one another (and from regulators). As Brian F. Mannix and I note in a forthcoming book chapter,[12] consumers in Vermont or Michigan are more likely to buy efficient furnaces, but not air

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Regulatory Studies Program. 2000. (http://mercatus.org/sites/default/files/publication/Clothes_Washer_Standards.pdf)

[10] For reference, my household of two runs the clothes washer once per week on average; according to calculations by the Mercatus Center based on DOE's data, such infrequent use would not make an efficient clothes washer a cost-beneficial purchase for my household, or any household that uses its clothes washer fewer than 300 times per year. (See here for additional information: http://mercatus.org/sites/default/files/publication/Clothes_Washer_Standards.pdf.)

[11] However, these long-term savings may not materialize for all high-frequency consumers because increased efficiency can result in reduced performance (e.g. dishes or clothes that are still dirty after a full wash cycle). In this case, consumers may not save on their utility bills because they must run their appliances more than once for the same outcome as a single run with a less efficient appliance.

[12] Sofie E. Miller & Brian F. Mannix. One Standard to Rule Them All: The Disparate Impact of Energy Efficiency Regulations. In *Nudge Theory in Action: Behavioral Design in Policy and Markets*, edited by Sherzod Abdukadirov. New York: Palgrave Macmillan (forthcoming 2016).

conditioners, while consumers in Texas are more likely to do the reverse.[13] Due to differences in climate between the two states, this is the *economically* efficient outcome, and consumers act on that information. Valuing other product attributes over energy efficiency does not indicate information processing deficiencies, it just reinforces that consumers have unique preferences due to location, climate, household size, and income, among other reasons.

Moreover, a furnace or water heater in a beach house may be used rarely; a window air conditioner in the guest room may be used only a tiny fraction of the time that one in a master bedroom is used.[14] While the same consumer will adapt her choices to particular locations and circumstances, regulators do not necessarily take the same approach. Because regulators cannot access, let alone process, all of this relevant information, one-size-fits-all technological mandates harm consumers by reducing their ability to optimize their choices in the marketplace.[15]

Regressive Effects of Efficiency Standards

In addition to limiting consumers' purchasing options, these standards also have a regressive effect on low-income and elderly households. In its annual Report to Congress on the Benefits and Costs of Federal Regulation, OMB considers the possibility that regulations may "disproportionately help or hurt those at the bottom of the economic ladder, or those who are suffering from some kind of acute condition or extreme deprivation."[16] Existing research, both from the George Washington University Regulatory Studies Center and other sources, addresses the effect of regulation on low-income Americans,[17] particularly as a result of DOE's energy efficiency standards.[18]

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[13] And, in fact, websites for homeowners considering high-efficiency furnaces suggest they do just that. See below. Don Vandervort. "Buying a High-Efficiency Furnace." HomeTips. Updated April 21, 2016. http://www.hometips.com/buying-guides/high-efficiency-furnaces.html.

[14] Kenneth Gillingham, Richard G. Newell, & Karen Palmer. *Energy Efficiency Economics and Policy*. Washington, DC: Resources for the Future, April 2009. RFF DP 09-13. §5.4.

[15] Sofie E. Miller & Brian F. Mannix. One Standard to Rule Them All: The Disparate Impact of Energy Efficiency Regulations. In *Nudge Theory in Action: Behavioral Design in Policy and Markets*, edited by Sherzod Abdukadirov. New York: Palgrave Macmillan (forthcoming 2016).

[16] United States. Office of Management and Budget. *2014 Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities*. June 15, 2015. Page 8. https://www.whitehouse.gov/sites/default/files/omb/inforeg/2014_cb/2014-cost-benefit-report.pdf

[17] For example, see Diana Thomas, "WORKING PAPER: Regressive Effects of Regulation," No. 12 – 35, November 2012, http://mercatus.org/publication/effects-regulation-low-income-households; and Dustin Chambers & Courtney A. Collins. "WORKING PAPER: How Do Federal Regulations Affect Consumer Prices? An Analysis of the Regressive Effects of Regulation." February 2016. http://mercatus.org/sites/default/files/Chambers-How-Regs-Affect-Prices-v2.pdf

[18] For example, see Sofie E. Miller, "One Discount Rate Fits All? The Regressive Effects of DOE's Energy Efficiency Rule," *Policy Perspectives* Vol. 22. 2015.

To its credit, DOE provides its own analysis of subpopulation impacts in many of its rules setting efficiency standards. DOE's analysis shows that its efficiency standards can have a disparate impact on the poor and the elderly.[19] This analysis is confirmed by my own quantitative research in this area, which calculates net benefits and costs for different types of consumers based on inputs from the academic literature.

It is well known that the time value of money is much higher for the poor. That is, the poor place a much higher value on having more money today, compared to the future, than do wealthier individuals who are better able to borrow money and weather financial downturns. The time value of money is expressed as a discount rate. Unfortunately, the existing literature on implicit consumer discount rates for energy-using durables suggests that the discount rates used by DOE to calculate consumer benefits are better representative of high-income households than median- and low-income households.[20] Using higher discount rates, which better represent the implicit time preferences of median- and low-income households, shows that energy efficiency standards *impose net costs on them*.[21]

Discounting: Present Costs vs. Future Benefits

To determine whether the long-term benefits of energy savings outweigh consumers' higher upfront equipment costs, the value of future savings must be discounted to be compared with current costs. In its guidance to agencies on how to conduct regulatory analysis, OMB explains:

> Benefits and costs do not always take place in the same time period. When they do not, it is incorrect simply to add all of the expected net benefits or costs without taking account of when [they] actually occur. If benefits or costs are delayed or otherwise separated in time from each other, the difference in timing should be reflected in your analysis.[22]

Because consumers will receive the benefit of reduced energy bills over the entire lifetime of their regulated appliances, DOE discounts those benefits to make them comparable with the

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[19] Miller, Sofie E. "Public Interest Comment on the Department of Energy's Direct Final Rule: Energy Conservation Standards for Residential Dishwashers." September 14, 2012. https://regulatorystudies.columbian.gwu.edu/files/downloads/DOE_EERE_2011_BT_STD_0060.pdf.

[20] See, for example, Richard G. Newell & Juha V. Siikamäki, "Individual Time Preferences and Energy Efficiency." *National Bureau of Economic Research* Working Paper 20969. 2015; and Jerry A. Hausman "Individual Discount Rates and the Purchase and Utilization of Energy-Using Durables." *The Bell Journal of Economics* Vol. 10, No. 1: 33 – 54. 1979.

[21] Sofie E. Miller. "One Discount Rate Fits All? The Regressive Effects of DOE's Energy Efficiency Rule." *Policy Perspectives* Vol. 22. 2015.
See also: Sofie E. Miller, "Public Interest Comment on the Department of Energy's Proposed Rule Energy Conservation Program: Energy Conservation Standards for Residential Furnace Fans," December 18, 2013; and Sofie E. Miller, "Regressive Furnace Fans," *Regulation Magazine* Spring 2014: 13-14.

[22] Office of Management and Budget. 2003. *Circular A-4: Regulatory Analysis*. Washington, DC. Page 31.

additional upfront appliance cost associated with compliance with the tighter standards. Benefits expected in the future are diminished in this calculation because people generally prefer present consumption to future consumption; that is, they have positive time preference. Discounting benefits and costs allows comparison of gains and losses incurred across different time periods.[23]

A lower discount rate implies that present consumption is valued relatively low compared to future consumption, whereas a higher discount rate implies future consumption has less value relative to present consumption. The appropriate rate by which to discount future benefits, however, varies depending on circumstances, and relying on a discount rate that is too high or too low could effectively misallocate consumption over time. This further complicates the calculation because the benefits of DOE's standards vary dramatically depending on the discount rate used to compare them to costs, which could jeopardize whether they are economically justified as required by statute.

Pursuant to OMB guidelines, DOE discounts at seven and three percent to calculate the present value of its energy efficiency benefits, using a three percent discount rate for its primary benefit estimate. However, consumers' measured discount rates in the academic literature are significantly higher, and tend not to be homogenous either across households or across purchase types.[24] In addition, actual discount rates for consumer appliances also vary quite a bit by household income, education, and race,[25] and, as noted above, the discount rates DOE uses to calculate high net benefits from its rules only adequately represent the time preferences of high-income households. Because many households likely face higher costs for borrowing than three percent to cover the higher up-front expense, the real benefits of these standards are much smaller than DOE calculates, resulting in efficiency standards that do not benefit, and, in fact, harm low- and median-income households.

Costs Outweigh Environmental Benefits

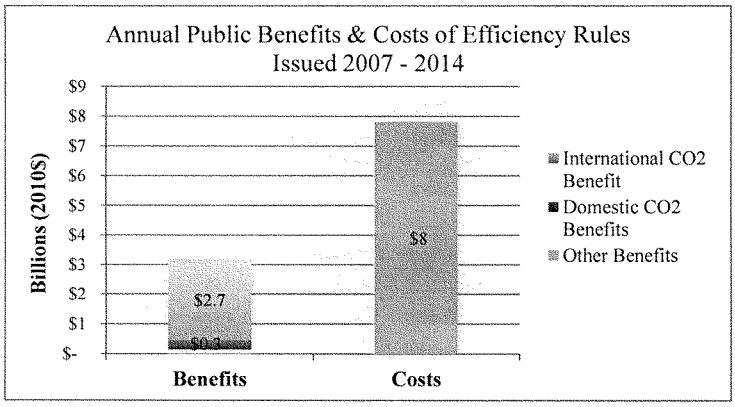
Though many traditionally think of energy efficiency standards in terms of environmental benefits, these benefits play a relatively small role in justifying DOE's standards. For the purpose of illustration, the following chart shows how the environmental benefits of DOE's efficiency rules—that is, the benefit of reducing CO_2 emissions—compare to costs. If DOE did not use private benefits to justify its standards, they would not pass a traditional benefit-cost test; the costs of these standards outweigh the public benefits by $4.6 billion (2010$) annually. After

[23] Office of Management and Budget. 1992. *Circular A-94: Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs*. Washington, DC.

[24] Frederick, Shane, George Loewenstein and Ted O'Donoghue. 2002. "Time Discounting and Time Preference: A Critical Review." *Journal of Economic Literature*. Vol. 40, No. 2: 393.

[25] Richard G. Newell & Juha V. Siikamäki, "Individual Time Preferences and Energy Efficiency." *National Bureau of Economic Research* Working Paper 20969. 2015

private benefits, the next largest category of benefits is international benefits from CO_2 reductions, which account for $2.75 billion in annual benefits.



Due to heterogeneity among households, it is unlikely that the large private benefits that DOE expects will materialize for many consumers; however, the Department would not be able to justify its efficiency standards on the basis of environmental benefits alone.

Conclusion

If the past decade is any indication, the DOE will continue to rely—heavily—on highly questionable private benefits estimates to justify energy efficiency standards that reduce consumer choice. Whether these benefits will materialize for consumers remains to be seen. Different households have different circumstances and constraints, and in many cases it is a cost to them, rather than a benefit, to have their options reduced.

While private benefits comprise 88 percent of all regulatory benefits for energy efficiency regulations issued between 2007 and 2014, these estimated benefits are based on faulty assumptions about consumers and their preferences. If DOE's assumptions are incorrect, then many consumers will experience large net costs by having fewer available options that represent their diverse preferences. Without these "private" benefits, the large costs of these standards cannot be justified by the relatively small environmental benefits of reducing CO_2 emissions.

Mr. WHITFIELD. Thank you, Ms. Miller, very much for your opening statement. And our next witness this morning is Mr. Joseph McGuire, who is the president and CEO of the Association of Home Appliance Manufacturers. Thanks for being with us, and you are recognized for 5 minutes.

STATEMENT OF JOSEPH M. MCGUIRE

Mr. MCGUIRE. Mr. Chairman and Ranking Member Rush, and members of the subcommittee, thank you for the opportunity to testify this morning. AHAM's membership includes more than 150 companies throughout the world, and employs tens of thousands of people in the United States. Our members produce more than 95 percent of the household appliances shipped for sale in this country. I don't think there is any disagreement at this table that the appliance standards and Energy Star programs have been successful.

Energy efficiency gains across core major appliance categories are dramatic and undeniable. For example, the most commonly purchased modern refrigerator uses the same amount of electricity as a 50-watt light bulb. A new clothes washer uses 73 percent less energy than it did in 1990 and half the water.

I also want to make very clear that our industry has been a strong supporter of these programs and has been involved in numerous rulemakings and legislative solutions to strengthen and improve the programs. In 1987, I personally led the 200-plus organizations that initiated and supported the National Appliance Energy Conservation Act. We strongly support a system of Federal standards and State preemption, and we do not propose a rollback of any standards.

But while these programs are both successful, they are both in need of modernization to recognize the success achieved and to establish a framework for policies and programs focused on meaningful additional efficiency gains. Yes, there should still be Federal standards that guarantee energy savings nationwide, by absent technological breakthroughs, a process geared towards continually ratcheting up efficiency standards, particularly for products that have already been subject to multiple revisions, does not make sense for the environment, the consumer, or the economy. But this will not happen under the current standards construct.

Reform legislation is needed. H.R. 8 is a practical step along that path offering modest, sensible changes to EPCA that will essentially require DOE to follow the regulatory procedures it had agreed to with the very organizations that advocated for EPCA reform in 1987, but more is needed. Today, AHAM is calling on Congress to take further steps to modernize our national energy efficiency law by ending mandatory serial rulemaking and permitting amended standards only when justified by quantifiable metrics, including a list of covered products for which no further rulemaking is needed, absent technological game changers; requiring DOE to meaningfully consider cumulative regulatory burden on product manufacturers; mandating procedures regarding transparency and public engagement, no more black box analyses; applying the Administrative Procedure Act to the Energy Star program.

There have been more than 30 standards and amendments that apply to the AHAM products under the program, and there have also been numerous test procedure revisions accompanying these standards. The reality is, though, that for many product categories, the relentless march of sequential rulemakings is not justified. That is because opportunities for additional energy savings beyond those already achieved are severely diminished as products are nearing maximum efficiency under technology. Further standards are likely to increase cost to consumers and manufacturers beyond an acceptable level, and for some products, reduced energy use will likely result in degraded performance and functionality.

We saw this in the flawed proposed dishwasher rule last year whose consumer payback period exceeded the product's life and resulted in products that could not clean dishes. DOE, to its credit, retracted the proposal, but it shouldn't take a national uproar for this to happen. The rule never should have been proposed.

As for Energy Star, the program has drifted from its original mission of energy efficiency into other areas beyond its expertise and authority. This drift must be considered in concert with the reality that the success of the program has essentially made it mandatory in the marketplace.

Congress needs to bring this program under the much more traditional procedures and specific criteria of the Administrative Procedures Act, which applies to virtually every other program EPA administers. It is also important that Congress make clear that Energy Star is about energy efficiency only, not about EPA's ideas regarding quality, functionality, sustainability, other nonenergy factors.

Our ultimate objective is to improve the U.S. regulatory environment in measurable ways that foster fair, more predictable, more open, and more efficient regulatory landscape. As an industry, we will continue to live up to our responsibility to provide consumers with life-enhancing products that deliver superior performance and energy environmental benefits. Our industry is very competitive, which drives not only innovation, but also reduce product costs through hundreds of millions of dollars in productivity improvements. That is why home appliance prices don't keep up with the CPI, not because of appliance standards.

Productivity investments hide the fact that changing product design and materials to meet energy standards adds costs. Implying that the huge efforts in time and capital investments to achieve productivity somehow make energy efficiency free is a great misunderstanding.

Mr. Chairman and members of the subcommittee, in summary, we call on Congress to modernize EPCA so that it addresses current circumstances by recognizing the diminishing energy savings opportunities for many products, evaluating cumulative regulatory burden and the actual impact of past rules in improving transparency in stakeholder engagement. Thank you for the opportunity to testify. I will be happy to answer any questions.

[The prepared statement of Mr. McGuire follows:]

Leadership ▸ Knowledge ▸ Innovation

Testimony
of
Joseph M. McGuire
President and Chief Executive Officer
Association of Home Appliance Manufacturers

Before the
Subcommittee on Energy and Power
U.S. House of Representatives

Hearing on
Home Appliance Energy Efficiency Standards Under the Department of Energy—Stakeholder Perspectives

June 10, 2016

Summary

The Issue:

The Appliance Standards and ENERGY STAR programs have been successful. Energy efficiency gains across core major appliance categories are dramatic and undeniable. For many home appliances, the opportunities for additional savings beyond those already achieved are severely diminished as products are nearing maximum efficiency under available technology. For those products, further amended standards or ENERGY STAR specifications are likely to result in insignificant energy savings, increased costs to consumers and manufacturers, and degraded performance and functionality.

The Proposed Solutions:

1. AHAM supports HR 8, the pending energy legislation, which would make technical corrections to EPCA and ensure DOE adheres to the existing processes designed to promote transparency and stakeholder engagement.
2. AHAM calls upon Congress to modernize EPCA, while retaining national standards and not rolling back existing standards, by, among other things:
    - Ending mandatory serial rulemaking and permitting amended standards only when justified;
    - Including a list of covered products for which no further rulemaking is needed;
    - Requiring DOE to meaningfully consider cumulative regulatory burden;
    - Mandating procedures regarding transparency and public engagement; and
    - Applying the Administrative Procedure Act to the ENERGY STAR program.

Introduction—Changes are Needed to the Appliance Standards and ENERGY STAR Programs

Chairman Whitfield, Ranking Member Rush and members of the Subcommittee, thank you for the opportunity to testify on behalf of the Association of Home Appliance Manufacturers (AHAM) regarding the Energy Policy and Conservation Act of 1975, as amended (EPCA). We appreciate the Committee addressing the evolving use of EPCA to pursue ever more stringent and unjustified efficiency standards and ensuring that the law is applied in a way that achieves its core mission without compromising the integrity or functionality of home appliances and other products.

AHAM represents manufacturers of major, portable and floor care home appliances, and suppliers to the industry. AHAM's membership includes more than 150 companies throughout the world. In the U.S., AHAM members employ tens of thousands of people. AHAM members produce more than 95% of the household appliances shipped for sale in the U.S. and Canada. The factory shipment value of these products is more than $30 billion annually. The home appliance industry, through its products and innovation, is essential to U.S. consumer lifestyle, health, safety and convenience. Through its technology, employees and productivity, the industry contributes significantly to U.S. jobs and economic security. Home appliances also are a success story in terms of energy efficiency and environmental protection. New appliances often represent the most effective choice a consumer can make to reduce home energy use and costs.

AHAM has been a major stakeholder in the Appliance Standards and ENERGY STAR programs since their commencement. We have been involved in all the legislation that has culminated in today's Appliance Standards Program, including the National Appliance Energy Conservation Act in 1987. We strongly support a system of federal standards and state preemption and we do not support a rollback of any standards. It is critical to a thriving domestic industry and U.S. employment and to ensure fully featured, moderately priced products, that we have one set of nation-wide standards.

There have been more than 30 standards, including amended standards, that apply to the 10 (soon to be 12) AHAM products under the program. There have also been numerous test procedure revisions accompanying these standards revisions. In many cases, we have supported specific standards in legislation or as part of regulatory negotiations. We question whether any other regulated industry anywhere in the federal regulatory scheme, or indeed anywhere in the world, has been subject to so many continuing and unending standards and rulemakings on the same products. So, our criticism of the operation of the Appliance Standards Program at this time is based on both deep experience and strong support for its existence.

The reality is that for many product categories, continuing endless, sequential rulemakings is not justified, threatens product utility, and is only rationalized by the Department of Energy (DOE) through its use of opaque, black box calculations such as the Social Cost of Carbon.

Similarly, we have engaged with ENERGY STAR in all its forms and through its various reorganizations. It has been a successful program in which our companies have been integrally

involved. AHAM operates verification programs for seven products in partnership with the Environmental Protection Agency (EPA) and DOE. Like the Appliance Standards Program, however, ENERGY STAR has drifted from its original mission. We supported the first statutory authorization for ENERGY STAR and at least some minimum level of due process and procedures for what otherwise was a totally discretionary, de facto regulatory program run by EPA.

Unfortunately, it has become increasingly obvious that in an attempt to maintain relevance when many product categories no longer had room for significant efficiency improvements, EPA has migrated from an energy-related program into other areas beyond its expertise and authority. This drift must be considered in concert with the reality that the success of the program has essentially made it mandatory in the marketplace. It now is necessary for Congress to bring this program under much more traditional procedures and criteria such as the Administrative Procedure Act which applies to virtually every other program EPA administers. It is also important that Congress make clear that ENERGY STAR is about energy efficiency only, not about EPA's ideas regarding quality, functionality, sustainability or other non-energy factors (though it is critical that product functionality be considered in selecting the qualification levels). If a new qualification level cannot be justified by reasonable consumer payback or would negatively impact product functionality, then it should not be changed, or perhaps a category has exhausted its utility in the program.

Summary of Key Solutions: The Appliance Standards Program Has Made Great Achievements in Energy Savings, but the Program Must Change After 30 Years of Continuous Rulemakings to Protect the Critical Functionality of and Consumer Satisfaction with American Appliances

AHAM and its members are committed to providing energy efficient home appliances that have a direct, positive impact on the lives of consumers. The energy efficiency gains across all of the core major appliance categories are dramatic and undeniable. For example, the most commonly purchased modern refrigerator uses only the same amount of electricity as a 50 Watt light bulb.

For many home appliances, the opportunities for additional savings beyond those already achieved are severely diminished as products are nearing maximum efficiency under available technology and, in some cases, the basic laws of thermodynamics. For those products, further amended standards are likely to result in insignificant energy savings and will increase costs to consumers and manufacturers beyond an acceptable level. And for some products, more stringent energy conservation standards will likely result in degraded performance and functionality. Unfortunately, we have already seen this exemplified in a dishwasher proposed standard, as is explained below.

AHAM supports modest statutory changes in HR 8, this Committee's pending energy bill, to ensure that DOE does not depart from its own guidance, known as the Process Improvement Rule.[1] This includes the need for DOE to finalize test procedure changes well before pursuing standards revisions so that affected parties can understand the significance of proposed new standards. Otherwise, DOE creates a veritable Tower of Babel in which nobody can analyze or fully communicate about what energy use is being measured. The pending legislation also

[1] 10 C.F.R. 430 Appendix A to Subpart C.

requires transparency in DOE's various contractor-operated computer models so the public can evaluate their input, operation, and output and file useful comments, thereby avoiding the black box syndrome.

Even with those technical corrections, however, much more fundamental reform is needed to focus and prioritize DOE's activities. The relentless march of rulemakings that is now baked into the law and DOE's program shows little regard for how efficient products are or the potential for adverse consequences to product utility. Accordingly, we call on Congress to modernize EPCA by recognizing the diminishing energy savings opportunities for many products and ending the sequential rulemakings except in extraordinary circumstances where significant justification can be demonstrated.

A modernized EPCA should evaluate cumulative regulatory burden and the actual impacts of past rules and should improve transparency and stakeholder engagement. This is the best way to preserve the national standards program and build upon its successes while still recognizing the realities of limited opportunities for further energy savings that are economically justified, technologically feasible, and do not negatively impact product performance.

About EPCA

EPCA was originally signed into law more than 40 years ago in response to the 1973 energy crisis, creating the first comprehensive approach to federal energy policy. The primary goals of EPCA were to:

- increase energy production and supply
- reduce energy demand
- increase energy efficiency, and
- help the Executive Branch respond to supply disruptions.

EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles (Energy Conservation Program), which was designed to improve energy efficiency for consumer products, including home appliances, and certain commercial and industrial equipment. EPCA also allows the Secretary of Energy to classify additional types of consumer products as covered products. The Energy Conservation Program consists of four parts: testing, labeling, minimum energy conservation standards, and certification and enforcement procedures.

For home appliances, EPCA requires that, six years after the issuance of every final rule establishing or amending standards, DOE either publish a determination that no amendment to the standard is justified or publish a proposed rule to amend the standard. This is commonly referred to as the "six year lookback." AHAM supported this provision as part of a legislative compromise. But, after decades, it is reasonable to reconsider its continued application. The lookback requirement is unending and has proven to be a prescription for a huge regulatory edifice built around churning out often dozens of rulemakings each year regardless of their significance or justification.

Since the law was enacted in 1975, the U.S. has made great strides in reducing energy use. Home appliance manufacturers have played a significant role in that success by innovating to

create products that save time, effort, water and energy, as well as enhance style, convenience, and ease of use. Specific examples include appliances that take less time to set/start, refrigerators with more internal volume using the same footprint, appliances that can monitor and diagnose themselves, and smart grid enabled appliances. Appliances today are thinner, lighter, longer-lasting and have greater capacities without increases in size. At end of life, more than 90% of white goods are properly recycled, pointing to sustainability of products.

Federal Standards

AHAM supports federal efficiency standards in lieu of state standards and has been involved with and supported appliance related energy legislation for 30 years. A single, uniform standard throughout the U.S., and even throughout North America and beyond, is vastly preferable to a patchwork of 50 disconnected state-by-state standards. Federal appliance standards based on industry input and, often, stakeholder agreement is a path to more reasonable regulation and protection of consumer interest in a full diversity of products by manufacturer, brand, features and price points. Rational, definite standards with sufficient lead time, when coupled with incentive programs, can also minimize the damage to U.S. employment.

By participating in consensus negotiations leading to legislated standards or those that are the subject of multi-party petitions to DOE, AHAM has helped DOE to first catch up to and then meet the rulemaking schedules in EPCA. Due to the successful partnership between DOE, efficiency advocates, and manufacturers, the Energy Conservation Standards Program has been a huge success. The program has expanded from 13 to more than 60 products. It has established robust efficiency standards for numerous covered products, some of which have been regulated

repeatedly because of mandatory, serial rulemaking requirements under EPCA's six year lookback provision.

Currently, the DOE- administered program has grown to cover products representing roughly:

- 90% of home energy use;
- 60% of commercial building energy use; and
- 30% of industrial energy use.

Home appliances are an energy efficiency success story. Accordingly, energy consumption of home appliances has steadily decreased according to AHAM's 2014 Energy Efficiency and Consumption Trends data.

The energy efficiency gains across all of the core major appliance categories are dramatic and undeniable. Refrigerators are being produced at larger capacities, and yet are 50 percent more efficient than they were 20 years ago. Refrigerators, refrigerator-freezers, and freezers with an added ENERGY STAR designation are at least 10 percent more efficient than the federal standard. The most commonly purchased modern refrigerator uses only the same amount of electricity as a 50 Watt light bulb. Clothes washers are another example of the energy efficiency success, with tub capacities growing larger and energy consumption declining. A new clothes washer uses 73 percent less energy than it did in 1990. In fact, replacing an 8-year old washer with one of average efficiency will save the American consumer $130 per year in utility bills, and more than 5,000 gallons of water per year.

ENERGY STAR models enjoy additional energy and water savings. Dishwashers, room air conditioners, freezers and other major appliances offer similar energy efficiency gains. But all this accomplishment is only used by DOE as a predicate for more regulation with the assumption that these product categories will always be ripe for more regulatory mining. That is wrong and Congress needs to stop the mechanical, unending churn of the regulatory machinery.

Diminishing Returns

For products that have already been subject to two or three rounds of standards regulation, as many of the products under AHAM's scope have, EPCA's required serial rulemaking process, driven by the mandatory six year lookback, is beginning to result not only in significant cumulative regulatory burden on manufacturers, but also in diminishing returns for consumers and the environment. Most regulated home appliances have been through at least three rounds of standards revisions. The chart in Appendix A shows the many standards for our products and how far into the future standards are already in the queue to be revised or implemented for the first time.

For many home appliances, the opportunities for additional savings beyond the significant savings already achieved are severely diminished as they are nearing maximum efficiency under available technology. For those products, further amended standards will likely result in insignificant energy savings and increased cost to consumers and manufacturers beyond an acceptable level. Moreover, for some products more stringent energy conservation standards will likely result in degraded performance and functionality.

For example, in 2015 DOE proposed amended standards for residential dishwashers, which had just undergone a standards change in May 2013. Among other things, AHAM demonstrated that: 1) it would take consumers 20 years to recoup the cost of a new dishwasher, longer than most consumers live in their home and longer than the expected life of the dishwasher; 2) the majority of consumers would experience a net cost; and 3) product performance would be at risk.

With regard to product performance, AHAM members performed investigative testing to demonstrate the impact DOE's proposed standards would have on dishwashers' ability to remove adhered soils and grease. AHAM members then conducted consumer surveys regarding the performance test results and consumers commented that, for example, the dishes were "yucky," "unsanitary," "unappetizing," "filthy," and "nasty." In fact, according to one survey, 70 percent of the consumers surveyed were somewhat, very, or extremely likely to serve family and friends from the dishwasher at the current standard level. Not one person would serve family or friends from the dishwasher at the proposed levels. Moreover, AHAM pointed out that if dissatisfied with product performance, consumers are likely to pre-rinse dishes, which increases water use. Product performance is at the very essence of the bargain in EPCA between obtaining energy efficiency improvements while protecting consumers from being deprived of products that work well and perform the desired function. This is not only meaningful to any understanding of technical feasibility, but is also explicitly a requirement for economic justification under the "safe harbor" provision in 42 U.S.C. § 6295(o)(2)(B)(IV).

Demonstrating diminishing returns, recent standards have resulted in minimal energy savings and it is reasonable to think that trend will continue. The 2013 dishwasher standard, per DOE's

analysis saved only 0.07 quad and the 2014 room air conditioner standard and 2019 dehumidifier standards each saved under a quad—about 0.3 quad each. And, as shown in the table below, the percentage of consumers experiencing a net cost (i.e., those for whom the lifecycle cost of the product will be greater than the savings at the new efficiency level) per DOE's own analysis (which AHAM has consistently shown is overly optimistic), is high.

Appliance Standard	Percent of Consumers Experiencing Net Cost Per DOE's Analysis
2015 Clothes Dryer	Up to 32
2019 Dehumidifier	Up to 28.7
2013 Dishwasher	19 for standard size
Proposed Dishwasher	53 for standard size
Proposed Portable Air Conditioner	13 for residential consumers
2014 Room Air Conditioner	Up to 33.6
2014 Refrigerator/Freezer	Up to 45.7

Not only are consumers experiencing a net cost to achieve minimal savings, but the payback periods for those who will experience a benefit are long. The payback period—the time it takes consumers to recover the increased purchase cost of a more-efficient product through lower operating costs—for the current dishwasher standard (effective May 30, 2013), per DOE's analysis is 11.8 years for a standard size product. And, per AHAM's analysis the proposed dishwasher standard would have a 20 year payback period for a standard size product (DOE's analysis indicates a 9 year payback period). These payback periods are compared to the 13 year lifetime of the product. Similarly, the last refrigerator/freezer standards (effective September 15, 2014) had a median payback period, per DOE's analysis, of 9.5 years for top mount refrigerators. And the last room air conditioner standard (effective June 1, 2014) had payback periods of up to 10 years for one product class according to DOE's analysis. Per DOE, the clothes dryer standard (effective January 1, 2015) had consumer a payback period of 11.7 years for gas clothes dryers.

The same is true for ENERGY STAR specifications. For example, according to EPA's analysis the expected consumer savings for the latest dishwasher specification were only about $6 per year. And the 2014 refrigerator, refrigerator-freezer, and freezer ENERGY STAR specification saves a consumer only about $5-7 per year compared to a product that meets the 2014 DOE standard for those products. According to EPA's analysis, the ENERGY STAR specification for compact refrigerators would save consumers only $3.65 per year.

To achieve these minimal energy savings, impacts on manufacturers have also been significant. The table below shows the loss in the industry's value that the DOE's own analysis predicted for several recent home appliance rulemakings.

Appliance Standard	Loss in Industry Net Present Value (%)
2015 Clothes Washer	33
2013 Dishwasher	13.3
Proposed Dishwasher	17.7-34.7
2019 Dehumidifier	20.9
Proposed Portable Air Conditioner	30.6
2014 Room Air Conditioner	18.6
2014 Refrigerator/Freezer	21.7 for standard size refrigerator-freezers

These negative impacts are unsustainable. Congress must act to prevent future grievous damage to products, consumers, and manufacturers. With each amended standard EPCA requires, the energy savings potential will decrease while costs to consumers and manufacturers will increase and product performance will be increasingly at risk.

Because EPCA's goals have been achieved for many products, these continued mandatory, serial rulemakings no longer make sense for all products. Accordingly, as described in fuller detail

below, AHAM supports revisions to EPCA that will recognize the successes already achieved and pursue additional savings through a more focused set of requirements. New standards rulemakings for product categories that have had multiple standards should cease unless there is clear evidence of extraordinary savings opportunities.

Until changes can be made to EPCA, and in cases where the data support it, DOE should exercise its authority to determine that no amended standards are justified. Moreover, DOE must adhere strictly to the processes that have been put in place to ensure that, for those standards that continue, standards are technologically feasible and economically justified.

Similarly, in cases where the data support it, Congress should direct EPA to sunset ENERGY STAR specifications where no significant energy savings exist or where more stringent levels would risk increased consumer costs or degradation in product performance.

Cumulative Regulatory Burden—Multiple, Related Standards for the Same Product or Manufacturer

Manufacturers in this country are drowning in a sea of regulations that often apply to the same product and may even be contrary to each other. For example, in the climate regime, DOE regulates energy efficiency, the most important, but indirect, effect on carbon emissions, but without coordinating on timing and impact with EPA's program, which regulates the less climate-impactful use of refrigerants that are critical to energy efficiency. Likewise, EPA tends to ignore the impact of its actions on energy efficiency. Scarce corporate resources are spent

dealing with non-integrated DOE and EPA requirements, while at the same time maintaining safety and quality.

President Obama has followed other presidents in requiring agencies to consider cumulative regulatory burden. DOE guidance and analysis that was required after the standards program was subject to a congressional appropriations moratorium in the 1990s purports to quantify cumulative regulatory burden—multiple related standards for the same product or manufacturer—in its analysis. This analysis, however, is often perfunctory and does not appear to consider the extent of the many burdens associated with regulation.

Home appliance manufacturers are subject to many, often simultaneous, regulatory requirements from not only DOE, but also EPA, the Federal Trade Commission, the Consumer Product Safety Commission, and the Federal Communications Commission among others. For example, the table below lists the proposed, final, and upcoming regulations for refrigerator/freezers from just these agencies:

Agency	Regulation	Expected Compliance Date
EPA	SNAP,* Foam Blowing Agent	2020
EPA	SNAP,* Refrigerant	2021
EPA	ENERGY STAR (voluntary)	2014, 2017 update
DOE	Test Procedure Revision	2022
DOE	4th Standards Update	2022
FTC	Revised EnergyGuide Label	2016, and again TBD**

*Significant New Alternatives Policy Regulation to ban certain hydrofluorocarbons as acceptable alternatives.
**Could be as early as a second change required in 2016 depending on the date FTC publishes a Final Rule

To meet the Appliance and Equipment Standards Program's goal to realize energy savings from appliance standards avoiding at least 3 billion metric tons of carbon emissions, by 2030, DOE plans to complete 26 standards rulemakings covering 30 products between 2014 and 2016. It

also intends to complete ten standards rulemakings covering 12 products between 2017 and 2020. Although DOE often lists rules impacting manufacturers in its analysis, it does not appear to take the close look at the cumulative impact that we believe is warranted.

A true cumulative regulatory burden analysis should not only consider the sheer number of rulemakings to which appliance manufacturers are subject, but should also account for the timing and technical and economic relationship of those rulemakings. For example, DOE's recent practice of amending the test procedure while at the same time proposing amended standards increases the burden on manufacturers in responding to DOE's proposed rules. When the rulemakings parallel each other, it is difficult, if not impossible, to comment on the proposed energy conservation standard because the test procedure is not yet settled and manufacturers cannot determine how their products perform in relation to the proposed standards.

For manufacturers, there is always a flurry of activity leading up to the compliance date of a new or amended standard. This includes adding new capital equipment, sourcing new and sometimes more costly materials, redesigning products, retooling factories, etc. Home appliances are now in an endless cycle of regulation, where as soon as one compliance effort ends or is near completion, another round of regulation to change the standard again begins. For example, DOE issued a request for information on amended energy conservation standards for residential clothes dryers only a few months after compliance with the most recent standard for clothes dryers was required. There is no time for manufacturers to catch their breath.

Just as importantly, there is no time for DOE, manufacturers or efficiency advocates to assess the success of standards or review their impacts on consumers and manufacturers. It would seem that, as part of its retrospective review, DOE should not be so driven to issue standards that it does not take into account whether an amended standard is justified. Without DOE fully reviewing the success/impact of past rules, consumers are at risk of increased product cost and the simultaneous loss of functionality, features and choice. Among other effects, certain product models could be at risk, with disparate impact on low and fixed income consumers.

Finally, a complete analysis of cumulative regulatory burden must consider the sheer number of products the regulated manufacturers make, in addition to the one being regulated in a particular rule, that are subject to proposals to amend standards or to promulgate standards for the first time. The time and resources needed to evaluate and respond to DOE's proposed test procedures and energy conservation standards for all of these products should not be discounted. When these rulemakings occur simultaneously, the cumulative burden increases dramatically.

The same is true when compliance dates are clumped together for all of these products, as it was with the last major round of standards for products in AHAM's scope, as shown in the table below. The ENERGY STAR specification also changed effective on these dates and new EnergyGuide labels were required. For many AHAM members, this meant a revamp of product lineups for several of the major product categories in less than a year, bookended by changes to commercial clothes washers in January 2013, residential dishwashers in May 2013, and microwave ovens in June 2016.

June 2014	September 2014	January 2015	March 2015
Room Air Conditioners	Refrigerator/ Freezers	Clothes Dryers	Clothes Washers

DOE should be required to take this into account in its analysis as well as in its planning.

Stakeholder Participation

DOE's aggressive administration of the standards program burdens manufacturers and deprives stakeholders of a sufficient opportunity to participate in rulemakings. Specific examples of this include DOE's failure to publish final test procedures before proposing standards and DOE's recently shortened rulemaking process.

To keep pace with an accelerated timeline for revising energy conservation standards, DOE has repeatedly failed to finalize test procedures before proposing standards. This is significant because the test procedure is the method by which manufacturers will be required to demonstrate compliance with the proposed standard once finalized.

Minimally acceptable engineering analysis and sound policy conclusions can only be based on a known and final test procedure that government, manufacturers and other stakeholders have had the opportunity to use in evaluating design options and proposed standard levels. EPCA specifically requires that compliance with a new standard must be measured using a defined test procedure. This requirement is meaningless if a test procedure is not finalized well before a proposed rule is issued, much less finalized, so that all stakeholders can evaluate the significance and the meaning of the possible standards. Otherwise, the resulting analysis is chaotic and based on too much speculation to be acceptable.

Surely no standard can pass the substantial evidence test if it is not based on a final test procedure. And that test procedure must have been based on a full and useful opportunity for the public to comment on it and its impact on proposed standard levels. Section 7 of DOE's own Process Improvement Rule states that DOE will attempt to identify any necessary modifications to test procedures when "initiating the standards development process." Further, section 7(b) states that "needed modifications to test procedures will be identified in consultation with experts and interested parties early in the screening stage of the standards development process." And section 7(c) states that "final, modified test procedures will be issued prior to the ANPR and proposed standards." The same principles apply to new test procedures, and the Process Improvement Rule indicates that it also applies to development of new standards.

Not only does the practice of proceeding with standards development without a final test procedure raise concerns about the quality of DOE's analysis and make it difficult for stakeholders to engage meaningfully in the rulemaking process, it also increases regulatory burden. In several recent rulemakings, such as those for portable air conditioner standards and conventional cooking product standards, AHAM and its members sought to provide data on the efficiency of products in the market. Absent a final test procedure, however, it was difficult (if not impossible) to do so. Lab time is limited and best spent on activities not related to rulemaking, such as product development. Companies are not inclined to continually test their products under various versions of DOE's proposed test procedures or under existing test procedures not necessary for any current compliance or marketing need. To do so is expensive and time consuming. In some cases, AHAM has been able to obtain some test data, but not

enough to be useful in a standards analysis because it would provide an incomplete and potentially inaccurate picture of the market. In some cases where amendments are significant or a test procedure is new, it would not match DOE's test data under the proposed test procedure, thus causing the type of confusion and chaos discussed above.

DOE has also been short-circuiting the rulemaking process by forgoing such critical pre-proposal steps as public data availability, stakeholder input, and company interviews. These steps should not be overlooked—they provide DOE with a better understanding of the realities of the current market and product mix and could have prevented many analytical errors that have been strewn throughout DOE's recent rules, such as the proposed dishwasher standard. In addition, the pre-proposal steps allow stakeholders time to prepare much more useful comments for DOE's consideration. Indeed, the Process Improvement Rule was originally developed in large part because DOE was conducting nontransparent analyses and in isolation from real-world data, which resulted in the need for much more engagement among government, DOE contractors, and industry stakeholders. After 20 years of successful adherence to the Process Improvement Rule, it now seems that DOE has unilaterally authorized itself to waive portions of the Rule, thus rendering it meaningless.

Similarly, EPA's process for changing and developing ENERGY STAR specifications is not consistent. Although EPA provides opportunity for public comment, there is no formalized notice and comment process for specification levels and test procedures. While the ENERGY STAR Guiding Principles provide factors EPA often reviews in developing new or revised specifications, the principles do not mandate that all of the factors be reviewed every time, nor

do they provide sufficient insight into when EPA will review each of the factors. Because the ENERGY STAR program has been so successful, it has become essentially mandatory in the marketplace. As such, a more formalized process that provides consistency and certainty as well as requires a fuller technical analysis is necessary, hence our call for ENERGY STAR to be subject to the Administrative Procedure Act like a traditional federal regulatory program.

Lack of Transparency

DOE uses complex modeling and analysis based on various economic, technical, and business assumptions on the possible future impact different levels of efficiency could have on consumers, manufacturers, and the nation. Impacted stakeholders do not have full access to the assumptions and models upon which the DOE's analysis is based. DOE's technical and economic analytical assumptions and models should be available for public review, analysis, and use. AHAM and others have raised numerous comments and objections to DOE's models and assumptions with no effective forum to resolve these differences. DOE has frequently simply dismissed these critiques.

Similarly, EPA does not regularly share all of the data supporting its ENERGY STAR specification revisions for home appliances. For example, during the development of the most recent revision to the dehumidifier specification, AHAM requested data regarding EPA's analysis of the consumer payback period and EPA refused to provide it. It appears that EPA publicly shares data in other categories such as consumer electronics, but fails to share that same data for appliances unless or until stakeholders request it (and even then, EPA sometimes refuses to provide data). Without regular access to that data, stakeholders cannot evaluate the proposed

specifications. In addition, it is not clear that all decisions are supported by data. For example, meaningful data on consumer energy savings is needed as is a better-defined and more transparent consumer payback period analysis. AHAM has long been a proponent of EPA relying on the extensive analysis DOE has done in its technical support documents and then consulting with manufacturers if any gaps in the analysis exist, perhaps because time has passed since the analysis was completed.

ENERGY STAR Mission Creep

The ENERGY STAR program was initiated to "identify and promote energy-efficient products." But, faced with decreased energy savings opportunities, EPA has been struggling to remain squarely focused on energy efficiency and has been delving into areas market forces should determine such as product performance, capacity, features and warranties that are outside its authority. EPA has also made proposals in ENERGY STAR specification revision processes that would encroach on other regulations or government programs such as environmental sustainability, recyclability, toxic chemicals, and ozone depleting substances.

AHAM supports DOE and EPA's efforts to provide incentives to manufacturers, retailers, and consumers for continual energy efficiency improvement, as long as product performance can be maintained for the consumer. Unfortunately, EPA has been attempting to ensure performance is not compromised by considering a mandatory performance metric—a level of performance that must be met in order to qualify for ENERGY STAR. AHAM does not disagree with EPA that product performance should be taken into account in the ENERGY STAR program. But AHAM does not agree that EPA should set minimum levels of product performance in order to qualify

for ENERGY STAR. Instead, market forces should and do determine acceptable levels of performance and AHAM members compete fiercely with regard to product performance. Manufacturers themselves have the most interest in ensuring that consumers receive superior performance, regardless of the energy and water efficiency of the product. It should not be the role of government, particularly in a voluntary program authorized to set energy efficiency criteria, to set performance requirements.

Thus, AHAM believes that EPA should conduct an analysis similar to DOE's in which, during its specification setting process, it considers the potential impact on performance. And, if a more stringent specification would negatively impact performance, that level should not be selected. In the context of diminishing returns, this may mean that some specifications need to be sunset, especially if there would also be minimal energy savings or consumer savings achieved by the specification.

Solutions

It is likely that problems of the magnitude described above can only be addressed through significant changes to EPCA. Those will take time and, in the interim, immediate fixes are needed to ensure DOE adheres to the processes it once followed and supported under the Process Improvement Rule. Accordingly, AHAM supports language in the House Energy Bill (HR 8) that would make technical corrections to EPCA. Specifically, that language, among other things, would require that:

- standards be economically and technically justified;
- DOE not close a proposed standards comment period earlier than 180 days after publication of a final test procedure; and
- DOE provide an opportunity for public input prior to publishing a proposed rule.

These technical corrections should not be controversial. In large part they simply codify what DOE, efficiency advocates, and industry agreed to in developing the Process Improvement Rule.

In addition, we urge DOE to use its existing authority under EPCA to, where justified for a particular product, make a determination that no further amendments to the energy conservation standards are economically justified and/or technologically feasible. AHAM is committed to working with DOE on this effort by providing it with the data necessary to make such determinations.

Another option to achieve continued savings without the burden of rulemaking is to promote accelerated replacement of older, less efficient models with new ones meeting the most recent efficiency standards. This can expedite consumers' access to reduced energy costs and deliver new products and features that are more advanced than the currently installed product base. It also reduces overall demand on the grid, without excessive burdens on manufacturers or the time-consuming process of issuing new standards that eke out a modicum of additional savings.

A combination of minor, technical corrections to EPCA and a DOE commitment to make determinations not to revise certain energy conservation standards will help to mitigate some of

the concerns raised above, but will not solve them and leaves several concerns unaddressed. Thus, broader EPCA reform is necessary that would:

- end serial rulemaking by requiring DOE to demonstrate certain threshold energy savings before moving to regulate and include a presumption against further regulation unless there are technological advancements that improve efficiency;
- include a list of covered products for which there can be no further rulemakings;
- require DOE to meaningfully consider cumulative regulatory burden;
- establish clear minimums of time that must elapse between completion of a test procedure and proposal of a related efficiency standard;
- mandate procedures enabling public input prior to issuance of a proposal;
- increase transparency around the government assumptions and models on which standards are based;
- adopt a preference for negotiated rulemaking;
- prohibit non-energy performance requirements in energy standards and ENERGY STAR specifications; and
- apply the Administrative Procedures Act to ENERGY STAR.

Conclusion

Our ultimate objective is to improve the U.S. regulatory environment in measureable ways that foster a fairer, more predictable, more open and more efficient regulatory landscape. Accordingly, we call on Congress to modernize EPCA so that it addresses current circumstances by recognizing the diminishing energy savings opportunities for many products, evaluating

cumulative regulatory burden and the actual impacts of past rules, and improving transparency and stakeholder engagement. This is the best way to preserve the national standards program and build upon its successes while still recognizing the realities of limited opportunities for further energy savings that are economically justified, technologically feasible, and do not negatively impact product performance.

APPENDIX A: Home Appliance Standards and Revisions Since Inception of the Appliance Standards Program

	Effective Year of Standard																	
Appliance	1988	1990	1993	1994	2000	2001	2004	2007	2010	2011	2012	2013	2014	2015	2016	2018	2019
Refrigerator/Freezer		Original	1st Update			2nd Update							3rd Update				
Room Air Conditioner		Original			1st Update								2nd Update				
Clothes Dryer	Original			1st Update	Reviewed									2nd Update			
Clothes Washer	Original			1st Update			2nd Update	3rd Update		4th Update				5th Update		6th Update	
Dishwasher	Original			1st Update					2nd Update			3rd Update					
Kitchen Ranges and Ovens		Original									Reviewed						
Dehumidifiers								Original			1st Update						2nd Update
Microwave Ovens															Original		
Portable Air Conditioners																	Original
Wine Chillers																	Original

Mr. WHITFIELD. Thank you, Mr. McGuire. And our next witness is Ms. Elizabeth Noll, who is the legislative director for Energy and Transportation at the Natural Resources Defense Council. Ms. Noll, thanks for being with us, and you are recognized for 5 minutes.

STATEMENT OF ELIZABETH NOLL

Ms. NOLL. Good morning. Mr. Chairman, members of the subcommittee, thank you for the opportunity to share the perspective of the Natural Resources Defense Council on national energy efficiency standards set by the Department of Energy for many household appliances and commercial products. This program sets dependable, minimum levels of energy efficiency that all Americans can count on to reduce their utility bills, the carbon pollution that harms human health while promoting innovation and new job opportunities. My name is Elizabeth Noll, and I am the legislative director for the Energy and Transportation Program at NRDC.

NRDC has long supported energy efficiency standards, and we are far from alone. We have successfully worked alongside many groups, including NEMA, AHRI, and AHAM here today, and was reiterated in a recent op ed we authored with the National Association of Manufacturers. And let's not forget, the initial law establishing standards was signed by President Ronald Reagan, then expanded and improved with broad bipartisan support in law signed by both Presidents George H.W. And W. Bush. And why is there such strong support for efficiency standards?

This program is wildly successful, delivering tremendous consumer and national benefits. It has broad and bipartisan support founded on a long history of collaboration and consensus building, and by all accounts, there is still huge potential for even more energy and financial savings now and in the future.

To my first point, by every single measure, the program provides huge benefits. In fact, national appliance standards are the second biggest energy saving policy in U.S. history, second only to vehicle fuel economy standards. Appliance standards are saving the typical U.S. household about $500 per year on their utility bills. Last year alone, American consumers saved $63 billion. And thanks to standards already on the books today, consumers and benefits will save almost $2 trillion on their energy bill due to improved appliance and equipment sold through 2035.

Because these standards are cutting American energy consumption, it also reduces the need to burn polluting fossil fuels to run those appliances and equipment. Last year alone, national appliance standards helped the U.S. avoid emissions of 300 million tons of carbon dioxide. That is equivalent to the annual pollution from about 63 million cars.

As I noted earlier, three Republican presidents have signed laws supporting energy efficiency standards, and for the first time since the early 1990s, the Department of Energy is up to date with its legal deadlines that Congress enacted. In the spirit of consensus building and collaboration, the agency has done more than ever to open up avenues to increase stakeholder participation and collaboration. Of the 42 standards finalized since 2009, almost a quarter

stemmed from consensus agreements negotiated with industry support.

And those that aren't negotiated, go through a normal rulemaking process, which includes multiple opportunities for input from industry. As a result, the vast majority of American energy efficiency standards go into effect without controversy.

As noted in other testimony today, manufacturers much prefer a single national standard over a State-by-State patchwork of requirements. Consumer groups, State Governments, business groups, utilities, all have engaged constructively and support the program. One might ask, Are there more energy consumer and environmental savings to be achieved? Emphatically, yes. One example involves the biggest energy and pollution saver from a single standard in the agency's history which was completed in January for commercial rooftop air conditioners, heat pumps, and warm air furnaces, and it represents the third revision to this standard. This standard is expected to save 15 quadrillion BTUs of energy over a 30-year period, which is nearly equivalent to the amount of energy in all of the coal burned to generate electricity in the United States in 1 year.

A forthcoming report by the Appliance Standards Awareness Project and the American Council for an Energy-Efficient Economy finds that the savings potential for Federal standards that will be eligible for update within the next 8 years exceeds what has been accomplished over the last 8, and innovation by our leading manufacturers is likely to open up new opportunities for savings that we cannot even contemplate today.

Without standards, cost-effective energy efficiency opportunities will be lost leading to unnecessarily high energy bills, increased energy consumption, more harmful pollution, and uncertainty from manufacturers. There is no doubt that this program works and will continue to deliver huge consumer and environmental value now and into the future. Thank you for the opportunity to share my views, and I look forward to your questions.

[The prepared statement of Ms. Noll follows:]

Testimony of
Elizabeth Noll
Legislative Director, Energy and Transportation
Natural resources Defense Council

U.S. House of Representatives
Committee on Energy and Commerce
Subcommittee on Energy and Power Hearing on
"Home Appliance Energy Efficiency Standards Under the Department of Energy – Stakeholder Perspectives"

June 10, 2016

Testimony on behalf of Natural Resources Defense Council

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to share the perspective of the Natural Resources Defense Council (NRDC) on national energy efficiency standards for appliances and equipment, a program that serves to increase the energy efficiency of appliances and equipment as a means to save money, promote job growth, and cut carbon pollution. My name is Elizabeth Noll and I am the Legislative Director for the Energy and Transportation Program at NRDC.

IN BRIEF:

NRDC is a national, non-profit environmental organization with more than 2 million members and activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC's top institutional priorities include curbing global warming and

creating a clean energy future. NRDC has long advocated for energy efficiency as a critical component in meeting our energy demands and climate goals, now and in the future.

NRDC has spent decades working to build and improve the Department of Energy's (DOE) federal appliance standards program because of the important energy, environmental, and consumer benefits of appliance efficiency standards. NRDC participated in the enactment of the first federal legislation establishing efficiency standards and has been active in all significant rulemakings since then.

National energy efficiency standards set by the U.S. Department of Energy (DOE) for more than 50 types of household appliances and commercial products in our homes, businesses, and industries set a dependable minimum level of energy efficiency that all Americans can count on to reduce energy and lower their utility bills.

And by all measures this program has been widely successful: National appliance standards are already saving the typical U.S. household about $500 per year on utility bills.[1] In 2015 alone, American consumers saved $63 billion on their utility bills.[2] Taking into account appliances and equipment sold through 2035, consumers and businesses will save almost $2 trillion thanks to standards already on the books today.[3]

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[1] Press release, Appliance Standards Awareness Project, Appliance Standards Rank #2 as Energy-Saving Tool in US (Apr. 6, 2016), *available at* http://www.appliance-standards.org/documents/asap-press-releases/appliance-standards-rank-2-energy-saving-tool-us.

[2] Office of Energy Efficiency & Renewable Energy, U.S. Dep't of Energy, Saving Energy and Money with Appliance and Equipment Standards in the United States (2009), *available at* http://energy.gov/sites/prod/files/2016/02/f29/Appliance%20Standards%20Fact%20Sheet%20-%202-17-2016.pdf.

[3] Ibid.

National appliance standards are the second-biggest energy savings initiative in US history, second only the vehicle fuel economy standards for cars.[4] In 2015 alone, national appliance standards helped the U.S. avoid emissions of 300 million tons of carbon dioxide, which is equivalent to the annual CO2 emission from about 63 million automobiles. Standards enacted since 2009 are projected to cut carbon emissions by 2.3 billion metric tons by 2030.[5]

These products include everything from common household appliances like refrigerators and air conditioners to commercial and industrial equipment like electric motors and distribution transformers. The program's history reveals strong bipartisan support for energy efficiency standards. In 1987 President Ronald Reagan signed the first federal law establishing energy efficiency standards; President George W. Bush signed legislation strengthening the program in 2005 and 2007; and President Barack Obama has made efficiency standards one of the cornerstones of his energy strategy.

Innovation keeps opening up new, cost effective pathways for savings energy. There is still much more to do. For the first time since the early 1990s, the DOE is meeting the legal deadlines Congress set for issuance of new standards. The impressive consumer and energy savings that will be achieved through recently approved standards also shows that we are far from the exhausting the potential for savings energy. For example, the Department recently finalized the largest energy and pollution saving standard in the

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[4] Press release, Appliance Standards Awareness Project, Appliance Standards Rank #2 as Energy-Saving Tool in US (Apr. 6, 2016), *available at* http://www.appliance-standards.org/documents/asap-press-releases/appliance-standards-rank-2-energy-saving-tool-us.

[5] Office of Energy Efficiency & Renewable Energy, U.S. Dep't of Energy, Saving Energy and Money with Appliance and Equipment Standards in the United States (2009), *available at* http://energy.gov/sites/prod/files/2016/02/f29/Appliance%20Standards%20Fact%20Sheet%20-%202-17-2016.pdf

history of the program, supported by industry and advocates alike, for commercial rooftop air-conditioners.[6]

We know efficiency is not fully achieved on its own; for example, beginning in 1947 electricity use from each refrigerator rose year over year until the first standard was set in 1978. There was simply no incentive for efficiency as the market encouraged design changes that saved money up front even if they ended up costing customers much more over the life of the product. Since then refrigerator electricity use has fallen precipitously all while providing the same or higher level of product performance. A new refrigerator meeting the latest standard uses about a quarter of the energy of its 1973 counterpart, offers 20 percent more storage and costs about half as much. This improvement would not have happened had the government not set minimum standards.

We know consumers want and support minimum efficiency standards; and we know manufacturers continue to innovate and rise to meet these standards while delivering the same or better performance and options. By all accounts, the U.S. is a global leader on efficiency. Thanks to the appliance standards programs Americans enjoy the best, most efficient appliances and equipment including heating and air-conditioning, lighting, and many others. Congress and the Department of Energy have played a critical role in this process. By setting minimum standards, it will save customers trillions of dollars and cut carbon emissions, while in a manner that allows manufacturers the flexibility to innovate and make better products.

FURTHER DISCUSSION:

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[6] Meg Waltner, *DOE Issues Biggest Energy Saving Standard Yet for Roof Top Air Conditioners*, NRDC (Dec. 17, 2015), https://www.nrdc.org/experts/meg-waltner/doe-issues-biggest-energy-saving-standard-yet-roof-top-air-conditioners.

One of America's most successful energy policies has been quietly delivering significant energy bill savings for consumers, sparking innovation and jobs, reducing the need to build new power plants, and cutting pollution that harms our health for nearly four decades. The U.S. Department of Energy's (DOE) Appliance and Equipment Standards Program today sets a basic minimum level of energy efficiency for more than 50 types of products in our homes, businesses, and industrial facilities. Ranging from common household appliances like refrigerators and air conditioners to commercial and industrial equipment like electric motors and distribution transformers, products covered by efficiency standards represent:

- 90 percent of home energy use;
- 60 percent of the electricity used in commercial buildings; and
- Approximately 30 percent of industrial energy use.[7]

And making our energy use smarter by increasing the efficiency of our appliances and equipment is the cheapest, cleanest, and quickest way to meet our power needs. Efficiency is a critical tool for meeting America's energy demands while reducing emissions from climate-changing pollution, both now and in the future. National energy efficiency standards provide the critical benefit of a uniform national regulatory environment, preventing a patchwork of different state standards that can be disruptive to business, and in many cases, manufacturers may find it beneficial and lucrative to offer products that exceed the minimum efficiency and produce even more energy savings.

Appliance Standards History – 40 years of success

[7] Office of Energy Efficiency & Renewable Energy, U.S. Dep't of Energy, Saving Energy and Money with Appliance and Equipment Standards in the United States (2009), *available at* http://energy.gov/sites/prod/files/2016/02/f29/Appliance%20Standards%20Fact%20Sheet%20-%202-17-2016.pdf

Appliance efficiency standards have been among the most effective government energy efficiency policies. Starting in the 1970s, Congress first authorized and then required the Department of Energy (DOE) to set minimum efficiency standards for energy-using equipment. With DOE making very slow progress, Congress intervened and established a dozen standards in the National Appliance Energy Conservation Act of 1987 (NAECA) along with a firm schedule for future updates at the "maximum level of energy efficiency...which is technologically feasible and economically justified." Subsequent federal laws including the Energy Policy Act of 1992, the Energy Policy Act of 2005, and the Energy Independence and Security Act of 2007, which were signed by Presidents Ronald Reagan, George H.W. Bush, and George W. Bush, respectively, expanded the number of products covered and many elements of the program.

Data from the Appliance Standards Awareness Project (ASAP) shows that U.S. appliance standards program is the second largest energy efficiency savings policy—saving 5.3 quadrillion BTUs (quads) of energy in 2014.[8] This puts savings from efficiency standards ahead of other important programs like Energy Star program, utility sector energy-efficiency programs, and federal tax incentives. Since President Ronald Reagan signed the original national appliance standards into law, savings from standards have grown in 2015 to reach 13 percent of electricity consumption and 4 percent of natural gas consumption.[9] As old equipment is replaced and new, more efficient appliances are installed, the full benefits of existing standards will continue to be realized for many years to come. Savings

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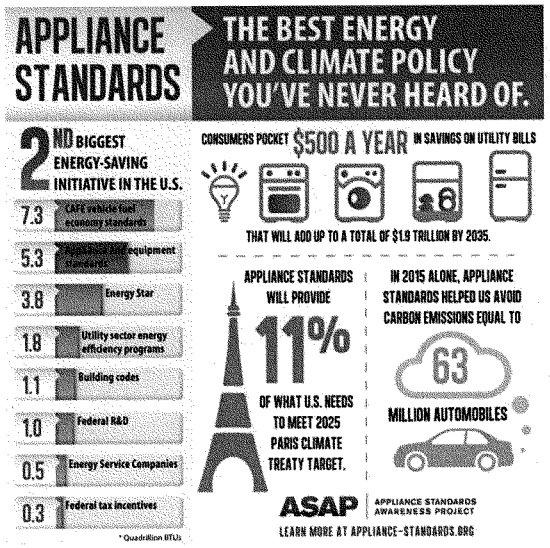
[8] Press release, Appliance Standards Awareness Project, Appliance Standards Rank #2 as Energy-Saving Tool in US (Apr. 6, 2016), *available at* http://www.appliance-standards.org/documents/asap-press-releases/appliance-standards-rank-2-energy-saving-tool-us.

[9] Ibid.

from these standards will grow to 20 percent of projected electricity consumption and 6 percent of projected gas usage by the year 2030.[10]



Already, the energy saved through appliance standards in 2015 was enough electricity to meet the needs of 43 million homes (1/3 of current U.S. households) and enough natural gas to meet the heating needs of about 10 million U.S. homes. These energy savings helped American consumers collectively save $63 billion on their utility bills in 2015 alone. The typical U.S. household will save about $500 per year on utility bills thanks to standards. Taking into account appliances and equipment sold through 2035, consumers and businesses will save more than 1.9 trillion dollars because of standards already on the books today.[11]

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[10] Ibid.

[11] Office of Energy Efficiency & Renewable Energy, U.S. Dep't of Energy, Saving Energy and Money with Appliance and Equipment Standards in the United States (2009), *available at*

In 2015 alone, appliance standards helped the U.S. avoid emissions of 300 million tons of carbon dioxide pollution, which is equivalent to the annual carbon dioxide pollution emitted by about 63 million automobiles. Annual carbon emission cuts in 2030 from standards completed since 2007 will reach about 220 million metric tons, or about a quarter of the emissions reductions expected from the administration's Clean Power Plan.[12]

Frequently Asked Questions:

Where would we be if there were no appliance standards?

Without federal appliance standards, cost-effective energy efficiency opportunities would be lost, leading to unnecessarily high energy bills, increased energy consumption, and more harmful pollution, and uncertainty for manufacturers. The evidence is overwhelming that without appliance standards the market fails to promote appropriate efficiency levels, costing consumers more over the life of their appliances, increasing energy demands and increasing pollution levels. This is because of numerous market barriers that prevent consumers from making optimal choices about the efficiency of the appliances they buy, absent minimum standards. Even though any incremental cost of more efficient appliances is paid back and then some through energy bill savings over the life of the product, these market barriers prevent these savings from being achieved. A classic example is the "split incentives" that exist between landlords and tenants. For instance, when a landlord is buying a new furnace, he or she will focus on the initial price that the landlord is

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http://energy.gov/sites/prod/files/2016/02/f29/Appliance%20Standards%20Fact%20Sheet%20-%202-17-2016.pdf.

[12] Press release, Appliance Standards Awareness Project, Appliance Standards Rank #2 as Energy-Saving Tool in US (Apr. 6, 2016), *available at* http://www.appliance-standards.org/documents/asap-press-releases/appliance-standards-rank-2-energy-saving-tool-us

responsible for, rather than the tenant's cost of operating the furnace. The result is a cheap inefficient furnace and higher energy bills for the tenant. Information costs and time-pressure can also lead to selection of products that fail to provide a good, cost effective level of efficiency. For example, a homeowner may not have the time to research a new water heater's long-term cost of ownership when the old one breaks; instead the homeowner will often need to take whichever one is on the repairman's truck. By setting minimum energy-savings levels for these and other products, standards help capture at least minimum cost-effective energy efficiency opportunities that might otherwise be missed.

Nation-wide energy efficiency standards create certainty and predictability for manufacturers. Rather than having to meet a patchwork of state-level efficiency standards, manufacturers can focus on meeting one national efficiency standard, which saves costs and increases competitiveness. In addition, standards cover all products sold in the country, regardless of where they are manufactured. Standards ensure that American manufacturers can compete on a level playing field with foreign manufacturers, and that the market is not flooded with low-quality products. And this is without any loss to consumer utility. Through innovation, our manufacturers continue to make more efficient products that provide appliances that deliver equal – or in many cases substantially improved – quality to consumers.

Without standards:

- Appliances would use more energy than they do today—in fact, since 1990,
    - New clothes washers use 70 percent less energy;
    - New dishwashers use more than 40 percent less energy; and

- New air conditioners use about 50 percent less energy.[13]

- You'd be paying about $500 more a year to power the appliances and lights in your home.[14]
- There would be added strain on the power grid on hot summer days, leading to more frequent power black outs.
- There would be even more asthma-trigger ozone, more soot and more greenhouse gas pollution in our air.

Can we expect future savings from the appliance efficiency program to continue at a similar rate as we have achieved in the past?

Yes. Innovation keeps opening up new, cost effective pathways for savings energy. A forthcoming report by ASAP and ACEEE finds that the next round of updates for existing standards has the potential to save more than has been accomplished over the past eight years.

Recent progress also shows that we are far from the exhausting the potential for savings energy. Just last year DOE formally adopted a negotiated efficiency standard for commercial rooftop air conditioners, heat pumps and warm air furnaces that together, represent the most energy and pollution savings under any energy-saving rule issued since the DOE standards program began in 1987. In fact, new equipment shipped over the next 30 years that complies with this standard will save 15 quadrillion BTU (quads) of energy, which is nearly equivalent to the amount of energy in all of the coal burned to generate

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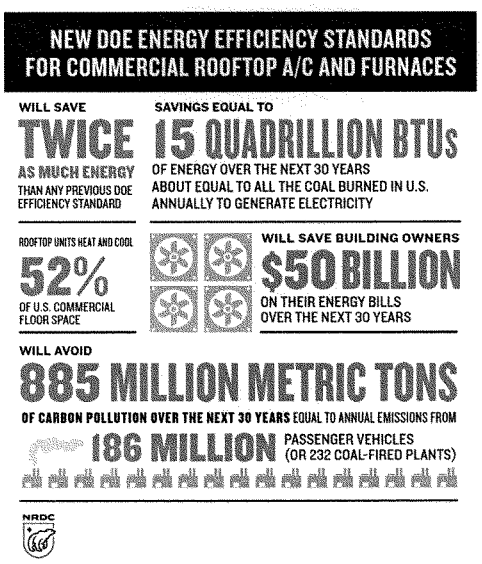
[13] Office of Energy Efficiency & Renewable Energy, U.S. Dep't of Energy, Saving Energy and Money with Appliance and Equipment Standards in the United States (2009), *available at* http://energy.gov/sites/prod/files/2016/02/f29/Appliance%20Standards%20Fact%20Sheet%20-%202-17-2016.pdf

[14] Press release, Appliance Standards Awareness Project, Appliance Standards Rank #2 as Energy-Saving Tool in US (Apr. 6, 2016), *available at* http://www.appliance-standards.org/documents/asap-press-releases/appliance-standards-rank-2-energy-saving-tool-us

electricity in the United States in a year.[15],[16] To put in context, that's enough energy savings to offset the carbon emission from more than 120 million U.S. homes for a year.



Further, this was the third time the standard for commercial AC has been revised. Commercial AC standards were first set in 1992, revised in 2005, and revised again last year. While the standard that was finalized last year is going to save a significant amount of energy and is hugely cost-effective, the standard is not even come close to the most energy-

[15] Meg Waltner, *DOE Issues Biggest Energy Saving Standard Yet for Roof Top Air Conditioners*, NRDC (Dec. 17, 2015), https://www.nrdc.org/experts/meg-waltner/doe-issues-biggest-energy-saving-standard-yet-roof-top-air-conditioners;

[16] U.S. Dep't of Energy, Energy Department Announces Largest Energy Efficiency Standard in History (Dec. 17, 2015), *available at* http://energy.gov/articles/energy-department-announces-largest-energy-efficiency-standard-history.

efficient AC commercially available, suggesting there is even more room for savings in the future.

DOE keeps breaking their own records. In 2009, DOE finalized an efficiency standard for fluorescent lights that at the time represented the most energy savings from a single rule. DOE matched that in 2014 with an efficiency standard for motors. And the standard for commercial rooftop air conditioners saves more energy than both of these record-breaking standards, combined.

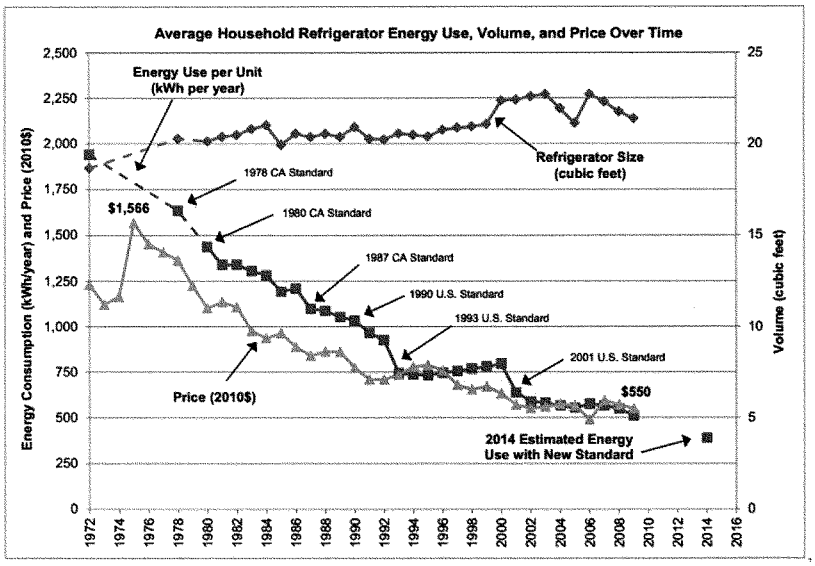
Through their continued engineering innovation, our manufacturers have ensured that products continue to get better as they also get more efficient. And DOE has ensured that consumer utility and product performance will not be impaired as it considers in the development of new standards, and that will continue to be the case as the program moves forward. NRDC has long advocated including these criteria when appropriate. For example in the ENERGY STAR specification for dishwashers, NRDC emphasized the importance testing and reporting cleaning performance. NRDC strongly supports testing cleaning performance to ensure that all new Energy Star-labeled dishwashers continue to perform their essential functions at levels that meet customer satisfaction. When it established the Department of Energy's standards program, Congress ensured that the Department consider consumer utility by specifying that the Secretary should consider, among other factors, "any lessening of the utility or the performance of the covered product likely to result from the imposition of the standard."[17]

Do new appliance and equipment efficiency standards make products more expensive?

[17] 28 U.S.C. § 6295(o)(2)(B)(i)(IV) (2015).

The federal appliance efficiency program is designed to provide manufacturers with ample lead-time and certainty on the minimum efficiency levels for the products they make. This allows manufacturers to implement improvements and innovations at their production facilities in coordination with updated standards. As a result, manufacturers make better products and the energy savings often come at lower cost than estimated. When setting standards, the Department carefully considers the potential increase in up-front product costs, including these costs in its analysis of consumer and manufacturer impacts.

An analysis by the American Council for an Energy-Efficient Economy (ACEEE) and the Appliance Standards Awareness Project (ASAP) evaluated the predicted manufacturer price increase for standards with the actual price increase for nine major product standards including standards for refrigerators, clothes washers, water heaters, air conditioners, and fluorescent lamp ballasts. For all products the analysis found that the actual price increase was less than the predicted price increase, with the difference often substantial, and in four of the nine cases prices actually declined over the period analyzed. Take refrigerators as an example: Before the standard was established, refrigerators were using more energy year after year. Since their efficiency standards were first set, refrigerators have gotten bigger, quieter, and now include additional features. A new refrigerator meeting the 2014 efficiency standard uses only about a quarter of the energy of its 1973 counterpart, offers 20 percent more storage, and costs half as much.



Has DOE increased stakeholder input and collaboration?

Yes. There has been more collaboration than ever before and every industry and trade association has been involved at some point in building that consensus. Of the 42 final rules[18] issued by DOE since 2009, almost a quarter of the rules are the result of negotiated consensus agreements. Those that were not completed through a consensus process were completed through the normal rulemaking process, and with the exception of a handful, without controversy.

[18] U.S. Dep't of Energy, Appliance and Equipment Standards Program, http://energy.gov/eere/buildings/appliance-and-equipment-standards-program (last visited Jun. 8, 2016).

Historically, and through the beginning of the Obama administration, most standards negotiations were privately held and comprised of only a few select participants. This was the case, for instance, in a multi-product negotiation over minimum standard levels for refrigerators, freezers, clothes washers, dryers, dishwashers and room air conditioners finalized in 2009. While private negotiations between individual parties can certainly be effective, there are times when it is beneficial to bring a broad group of stakeholders and DOE together to jointly negotiate efficiency standards. In 2014, DOE established the Appliance Standards Regulatory Advisory Committee (ASRAC) in an effort to further improve the DOE's process of establishing energy efficiency standards for certain appliances and commercial equipment. The creation of ASRAC also formalized a process for negotiated consensus rulemaking for the first time.

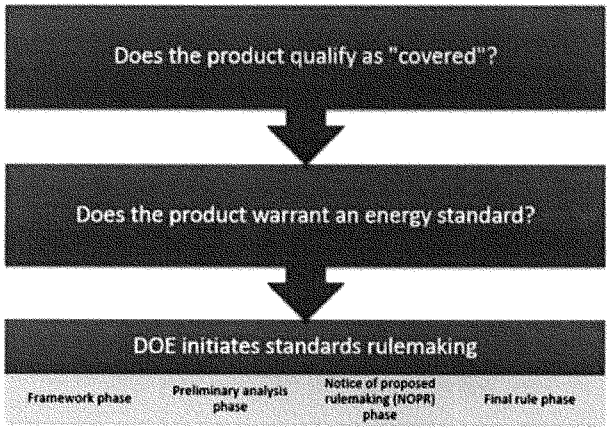
ASRAC is a discretionary advisory committee that provides advice and recommendations related to the development of standards and test procedures, standards enforcement, product labeling, and other issues of concern. Its 13 members consist of manufacturers, state government, consumer groups, and efficiency advocates. Specifically, ASRAC provides DOE a tool to engage interested parties, convene working groups, gather data and work toward developing consensus standards. The ASRAC working group recommendations are considered by DOE when developing the final standards. The use of the negotiated rulemaking structure means that standards can have more buy-in from a representative group of stakeholders. This "reg neg" process has now been used for 11 topics, some of which are still underway, which is further explained below.

Of course, the agency is busier than they have ever been before, meeting all of its legal deadlines set by Congress for the first time since George H. W. Bush was president. While

DOE seeks to engage stakeholders throughout the process and is responsive to input received by all stakeholders, the authority granted to them by Congress is to set standards independent of consensus. The agency has done more than ever to open up avenues for negotiation and public participation, as evidence by the ASRAC process, but also through requests for information, workshops, and standard public meetings.

As with any type of federal rulemaking, occasionally DOE efficiency rules are challenged in court. However, this is the exception rather than the rule. During the Obama administration there have been five contested final rules out of the 42 rules finalized, representing less than 12 percent of final rules. As well, this is part of the process that allows stakeholders to raise concerns and seek relief as they see fit.

In general, how does the standard-setting process work at the Department of Energy?



Determining that a product is covered under the provisions of EPCA is necessary before a standard can be established. The flow chart above provides a helpful way to think about the standards process, but note that DOE often starts their analysis of a product before a determination of coverage is made. DOE must also determine whether a particular piece of equipment warrants a minimum energy efficiency standard, by analyzing the following:

1. average energy use of the product,
2. the total energy use of the product across the country,
3. whether a substantial improvement in energy efficiency is technologically feasible, and
4. whether a labeling rule (rather than a full-blown energy standard) would be sufficient to induce the maximum energy efficiency.

DOE's notice of proposed rulemaking, the next major step in the rulemaking process, will include DOE's proposals for minimum efficiency standards. Rulemakings take about three years to complete and generally consist of four phases: framework, preliminary analysis, notice of proposed rulemaking (NOPR) and final rule. The **framework phase** is the first step in this process, and sets up the basic outline for the rulemaking. DOE also seeks feedback on specific questions in this phase, which is then fed into the **preliminary analysis phase**. In this phase, DOE gathers data and information about the technical, economic, and market characteristics of the product, and makes initial determinations of possible efficiency improvements. DOE then takes public feedback on their analyses and issues a **Notice of Proposed Rulemaking**, which includes a proposed efficiency level that is both technologically feasible and economically justified. Taking into account additional

public comment on the proposal, DOE issues a **final rule**, which generally goes into effect within 3-5 years.

How else can stakeholders engage in the process?

Stakeholder feedback is crucial to the standards-creation process. Interested stakeholders may engage in the standards development process in one or a combination of the following ways:

(a) Participate in public meetings or webinars: DOE releases information about all public meetings and opportunities for comment in the Federal Register and through their public email listserv. Meetings are also broadcast as webinars and are open to the public, with the opportunity for public comment.

(b) Access documents related to the standards rulemaking at Regulations.gov: All documents related to the rulemaking for a particular standard can be found on Regulations.gov, including proposed and final rules (as applicable), stakeholder comments, public meeting transcripts, and other supporting information. DOE has links to the dockets for all of the covered products, as well as those in process, on the Appliance and Equipment Standards section of their website (http://energy.gov/eere/buildings/appliance-and-equipment-standards-program). The DOE website also has a wealth of other procedural and background information that is useful for stakeholders looking to engage in the process.

(c) Submit comments to the docket as part of the rulemaking process: DOE welcomes public comments at multiple stages of the rulemaking process, and carefully considers all comments received. Detailed information about submitting comments is found in DOE Notices, on the Appliance Standards section of the DOE website, and in the Federal Register.

Mr. WHITFIELD. Thank you, Ms. Noll, for your statement.

At this time, I would like to introduce Mr. Kevin Cosgriff, who is the president and CEO of the National Electrical Manufacturers Association, and thanks for being with us, and you are recognized for 5 minutes.

STATEMENT OF KEVIN J. COSGRIFF

Mr. COSGRIFF. Thank you, Mr. Chairman, Ranking Member Rush, and members of the subcommittee for having us today. I am the president and CEO of the National Electrical Manufacturers Association, some nearly 400 members that provide virtually everything in the electrical world, and I appreciate this opportunity to talk about EPCA with the subcommittee.

We have a central position in this dialogue given that 20 of the 63 covered products are made by NEMA members, and an additional 30 covered products contain components made by NEMA members.

I have three main points that I would like to make today. First, as has been stated, there are diminishing energy savings returns to multiple rulemakings on the same product. That is not saying that we don't believe in energy savings. We are just saying there is diminishing returns on multiple rulemakings that ought to be considered.

Future energy efficiency opportunities should include looking at energy use systems, not simply components or individual products. And lastly, serial regulation does, over time, limit consumer choice.

First, on diminishing returns. EPCA was written 40 years ago, and many of the covered products have since achieved then unimagined levels of efficiency. Several products have been through two or more different rulemakings, and the EPCA statute requires the DOE to determine whether higher standards are warranted on every single covered product at least every 6 years. This applies even to products that have already reached the stage of regulatory maturity, as it were, that is to say, the products for which cost-effective efficiency improvements have essentially reached their limits. Cost-effective energy improvements have reached their limits.

There are two components to this situation we believe warrant congressional attention. We should retire several and mature covered products, and by that, I mean retire at the current level of efficiency, not backslide, and that stakeholders, including Government, should be given sufficient time to analyze the impact of a previous regulation before a new rulemaking cycle kicks off. Rarely has a product entered the market before the next rule process kicks off. There has not been enough time to really analyze the information in the real world to see if it works.

My second point is that energy efficiency opportunities should begin to looking at energy use systems. EPCA was crafted for individual products. The challenge ahead, I think, is to build on this past industry success with a new, more holistic approach to these savings opportunities. Individual products are increasingly interconnected and operate as a system, rather than singularly. We suggest Congress consider this opportunity when discussing energy savings.

Think energy savings from a building versus energy savings from a lamp. Demands from—my third point is serial regulation impacts consumer choice. Demands from global competition, Government regulation, and all important consumer preference requires manufacturers to sprint to remain competitive. While our members are accustomed and good at running this race, and endless regulatory environment erects hurdles that they must repeatedly clear each and every time to remain viable. They are the definition of having skin in the game.

One tendency of EPCA, however, is that over time, it will trend towards eliminating certain products from the market. Under this type of regulatory scheme, there will be fewer and fewer choices offered to consumers. We assert that markets should drive and, in fact, are driving the energy-efficient economy. One choice that markets can do without, however, is availability of products entering the United States that do not comply with U.S. law and policy. This deprives consumers of energy-efficient benefits, and disadvantages law abiding manufacturers. This is an area where the Federal Government especially could be helpful with policing up these imports.

In conclusion, electrical manufacturers' contribution to the energy efficiency economy has been diligent, and I believe commendable. Throughout this effort, NEMA has made constructive proposals to Congress, to DOE, and working with other stakeholders to advance energy efficiency where we believe it was justified and where the savings were significant. We have resisted regulation for the sake of simply doing something more when the benefits are insignificant, Or the costs were just too high. The 40-year-old model of regulating energy use in single products has, in many cases, done its duty, but its diminishing returns are exacting an increasing cost for our industry and higher price for our consumers.

The legislative overhaul that builds on the success of the last 40 years, but allows us to all keep the energy efficiency economy moving forward is what we wish to support. We urge Congress to seize this unique opportunity. Thank you. I look forward to your questions.

[The prepared statement of Mr. Cosgriff follows:]

National Electrical Manufacturers Association

The Association of Electrical Equipment
and Medical Imaging Manufacturers
www.nema.org

Written Statement of
Kevin J. Cosgriff
President & CEO
National Electrical Manufacturers Association (NEMA)
Before the
Energy & Power Subcommittee
House Energy and Commerce Committee
On
Home Appliance Energy Efficiency Standards Under the
Department of Energy-Stakeholder Perspectives
June 10, 2016

Chairman Whitfield and Ranking Member Rush:

Introduction:

Thank you for the opportunity to provide the following remarks on behalf of the National Electrical Manufacturers Association (NEMA) regarding the Energy Conservation Standards program implemented by the Department of Energy pursuant to the Energy Policy and Conservation Act (EPCA).

NEMA represents nearly 400 electrical equipment and medical imaging technology manufacturers. Our combined industries account for more than 400,000 American jobs and more than 7,000 facilities across the United States. Domestic production exceeds $117 billion per year. Our industry Members are at the forefront of electrical safety, reliability, efficiency, and diagnostics.

Opening:

The Energy Policy and Conservation Act (EPCA), enacted over 40 years ago in response to the 1973 energy crisis, created the first comprehensive approach to federal energy policy. The primary goals of EPCA were to increase energy production and supply, reduce energy demand, provide energy efficiency, and give the executive branch additional powers to respond to disruptions in energy supply. Most notably, EPCA established the Strategic Petroleum Reserve, the Energy Conservation Standards Program for Consumer Products, and Corporate Average Fuel Economy regulations. The Act's provisions relevant to energy conservation standards have been amended several times since 1975.

Today's hearing concerning EPCA's Energy Conversation Standards program for Consumer and Commercial Products is timely given the current debate on the future of energy in America and energy conservation standards role in that future. NEMA is in a unique position in this debate given that 20 of the 63 covered products in the DOE program are products made by NEMA Members, with another 30

covered products containing NEMA Member- made components. In all, over eighty percent of the products covered by this program impact our Members.

Originally, EPCA's energy conservation standards program was directed at 13 home appliance products. Today, the Department of Energy (DOE) administered program has grown to cover over 60 products representing about 90% of home energy use, 60% of commercial building energy use, and approximately 29% of industrial energy use, according to DOE statistics. The program has now established efficiency standards for numerous covered products that have been regulated and re-regulated (by amendment of prior standards), such that consumers and manufacturers will see only diminishing returns from continuing rulemakings for many of these long-regulated products.

Key Points:

Diminishing Returns from Serial Rulemakings

EPCA was written 40 years ago and many of the covered products are now highly efficient. Several products have been through two or more different rulemakings with increased efficiency standards adopted by Congress and the DOE in that time. The EPCA statute requires DOE to conduct a rulemaking to determine whether higher standards are warranted on every single covered product no later than every six years, even for products that have already reached a stage of "regulatory maturity" in terms of ability to sustain cost-effective efficiency improvements. There are two components to this situation that warrant congressional attention and both must be addressed: (1) several of the "mature" covered products that have been through multiple iterations of energy conservation standards should be sunset from the program; and (2) the six-year review cycle in the law requires that DOE start a new rulemaking procedure for the same covered product barely after the regulated industry has begun to comply with the previous regulation does not enable the government and stakeholders to understand the impact of the previous regulation before a new rule is in the making. And this cycle does not contemplate just one rulemaking and one rule, but multiple rules because there are regulations not just for standards, but for test procedures and information.

Product versus Systems Regulatory Approach

The opportunity and challenge going forward is to determine how to build on the past EPCA product-oriented success that will yield declining or no marginal benefit in the future to achieve additional cost-effective energy savings. Another challenge to the current framework is that many of today's products and technologies are increasingly interconnected and operate as a system rather than as a single component. This new, smart and connected ecosystem was non-existent when Congress created the EPCA program 40 years ago. Starting today, Congress should start considering ideas on how to meet this challenge and work together to leverage the opportunity it creates. This new opportunity could also reduce burden for the agency by allowing them to focus on an entire system rather than the many components that make up the system. There are greater energy savings to be realized from deploying

the highly energy efficient products that are made today rather than continuing to squeeze diminishing benefits out of long-regulated products.

Regulation Impacts on Consumer Choice

With ever-growing demands from globalization, regulations, and consumer preferences, manufacturers are in a constant battle to balance these to remain competitive. While our Members are accustomed to managing this balance, we do fear that a regulatory environment that appears to know no end will hinder their ability to manage this balancing act in the coming years. One aspect of the EPCA regulatory program is that it eliminates less-efficient products from the market. At some point in the regulatory scheme, it means there will be fewer and fewer choices to offer consumers and users of regulated products. We would assert that markets should be relied upon to drive the energy efficient economy more than government action.

NEMA AND THE ENERGY EFFICIENT ECONOMY

Forty years ago, Congress set in motion a national policy aimed at reducing the consumption of electricity from home appliances as one component of the nation's effort to ensure a stable, reliable and diverse supply of all forms of energy that met the nation's demand. For its day, the congressional enactment was an "all of the above" energy strategy, not conceptually much different than the discussion occurring today for an "all of the above" energy approach. The 1975 Energy Policy and Conservation Act, enacted in the wake of the Arab Oil Embargo, spoke to both the supply and demand side of the energy equation: "increase the supply of fossil fuels in the United States through price incentives and production requirements; . . . reduce the demand for petroleum products and natural gas programs designed to provide greater availability and use of this Nation's abundant coal resources; . . . conserve energy supplies through energy conservation programs and, where necessary, the regulation of certain energy uses; . . . provide for improved energy efficiency of motor vehicles, major appliances, and certain consumer products." One difference between 1975 and today's energy economy is the growing penetration of renewable energy resources, many of which did not exist in 1975. Another difference is the substantial elimination of inefficient energy consuming products and the availability today of far more energy efficient products and the demands of consumers who want highly efficient products.

The effort to improve the energy efficiency of appliances became a political football within a few years after the Act was enacted, and efforts to regulate the efficiency of appliances stalled until a court challenge resolved legal differences among stakeholders. Congress amended the appliance efficiency portion of the law in 1986 and again in 1987 with the support of the Reagan Administration. Products manufactured by Members of the National Electrical Manufacturers Association (NEMA) were not included in the original 1975 law. That would change in 1987 with Congress' inclusion of efficiency standards for certain fluorescent lamp ballasts as a new part of the law, and the coverage of NEMA Member products within the law's scope would expand further in 1992 with the inclusion of certain types of fluorescent, incandescent and metal halide lighting products as well as electric motors and

distribution transformers. At about this time, the nation was just beginning to see the energy savings from appliances as less efficient versions of products were exiting the market in favor of more efficient products that met energy conservation metrics.

NEMA and its Members supported the national policy for energy conservation. The several benefits of the Act are real and are often extolled as follows: the less the nation spends on energy, the more the nation can spend (or save) on other products or investments; the less energy it takes to produce a particular product, the greater our productivity; the less energy we consume allows the nation to rely more heavily on domestic production of energy resources and avoid imported energy sources; the less energy we consume, we reduce or delay the need to invest in new energy sources and the nation can invest (or save) in other ways; the less energy we consume, we reduce negative externalities (*e.g.* pollution) associated with energy production.

As it implements the law, the Department of Energy estimates the amount of these benefits either in terms of British Thermal Units or kilowatt hours of energy that are projected to be saved over thirty years into the future and often analogizes the estimated 30-year savings to the amount of electricity consumed by a given number of homes in one year, taking a particular number of cars off the nation's highways, or avoiding the need to build new power plants. While thirty-years-into-the-future estimates are inherently imprecise and based on assumptions that may never prove true, and the accuracy of the estimates is not something anyone would want to place a bet on, that is not the entire point. Whatever the precise amount of savings may be from a regulation turns out to be, even if the projection is significantly lower than estimated, the magnitude of the energy savings still remains large and is a benefit to the nation. From that perspective and within limits, this law can be regarded as successful public policy choice by Congress.

Those benefits, as attractive as they may be, are not the sole concern of the Act. Congress recognized that in subsequent amendments to the Act. There are costs associated with achieving those benefits. Those costs fall on consumers and users of the regulated products, they fall on manufacturers of the regulated products, they fall on employees of the manufacturers and employees of the distributors and retailers of the regulated products, and they can fall on the component and raw material suppliers to manufacturers of regulated products.

Manufacturers of regulated products are the one stakeholder in this regulatory scheme who are sensitive to all of these impacts and they may be the only stakeholder speaking up for all who are impacted. Manufacturers of consumer and commercial/industrial products are extremely attuned to the requirements and needs of those who use and buy their products. Their relationships with their customers are important to them for obvious reasons. The law works by establishing a standard metric that limits the amount of energy --- electricity or gas --- that a regulated product can consume, reducing "losses" of energy that might occur during the product's normal operation. The metric eliminates versions of the product on the market that do not meet this standard and requires manufacturers to supply only versions of the regulated product that do meet the standard. For a variety of reasons, the more efficient products that remain on the market may have a higher cost (and price) than those versions that can no longer be made and sold. This higher price might be offset by the energy savings

experienced by the consumer over a reasonable period of time after purchase. It is not always easy for consumers to recognize and appreciate the total cost of owning a product as the sticker price on a store shelf is what they see. And even if the price of the more efficient product is not materially different, the new energy metric can impose costs on customers beyond the cost of the regulated product. For example, new standards for electric motors may require the motor manufacturer to build the more efficient motor in a larger frame size. Where a motor is incorporated into another piece of equipment, that larger motor may no longer fit and the user will have to source a replacement item to fit the larger, more efficient motor. That is a cost. Ultimately the question is whether the energy savings in the long-run are so substantial that this additional cost, and all other additional costs, can be economically justified? In the case of the new energy metric for electric motors, the energy savings were quite substantial. NEMA and its Members supported this rule, and we have supported improvements in the energy metrics for a number of other regulated products. It is a balancing act, and the law expressly recognizes that the benefits and costs must be objectively weighed against one another. To that end, as Congress evaluates the program and its future, we recommend that stakeholders and the public have full access to the models, assumptions, and analysis used during rulemakings.

There is another emerging perspective about the law that must now be acknowledged. The Act is now 40 years old. Despite a slow initial implementation, the regulatory scheme is now mature as many products have seen multiple regulatory actions --- either from Congress or the Department of Energy --- that have resulted in new energy metrics for those products increasing their efficiency or capping their energy use. Some products have seen two, three or four regulatory actions and there is at least one product --- dishwashers --- that is looking at round five of regulation. Congress has authorized these multiple regulatory actions directed at the same product. After forty years, it is now time for Congress to look at the continuing benefit of additional regulation of products that have been regulated multiple times. We are witnessing compulsory serial rulemaking and we are witnessing diminishing marginal returns to this effort. While NEMA does not agree with the clarion call of some to repeal all of this regulation and legislation, we do think it is time to explore other ways of saving energy that do not involve serial regulation of products and components in the face of demonstrably shrinking benefits.

Fluorescent lamp ballasts, the electrical driver for fluorescent tubes, has witnessed four rule changes --- some by Congress and some by DOE --- and faces a market in transition to LED lighting that makes it difficult to accept continuing regulation when the future is moving in a different direction. Last year, the Association of Home Appliance Manufacturers (AHAM) highlighted a proposed new water saving and energy saving metrics for dishwashers --- it would be the fifth energy metric for dishwashers since Congress first established a metric in 1986 --- will impair the dishwasher's ability to clean dishes. These types of facts in the context of a serial regulatory environment ought to give pause if not reconsideration to continuing raising of the bar of long-regulated products. The DOE has acknowledged recently in two regulatory actions that it could not justify higher energy metrics for incandescent reflector light bulbs and high intensity discharge lamps. In both cases, the incremental energy savings over a thirty year period were extremely small --- less than 0.01 quads of energy[1] over thirty years. A review of 42 DOE regulations since 2009 reveals a range of projected energy savings from individual DOE

[1] A "quad" of energy refers to a quadrillion British Thermal Units of energy.

rules from a low 0.01 "quads" of energy over thirty years to as high as 14.8 "quads" of energy savings over thirty years. At the high end, these savings are quite significant as is the cumulative savings of 75.75 "quads" over thirty years from all 42 regulations. And this figure does not include the energy savings from standards passed by Congress since 1986 and older DOE regulatory actions before 2009. The average projected energy savings per rule from the 42 regulations is 1.8 "quads" of energy. However, 16 of the 42 rules generated less than 0.4 quads of projected energy savings over thirty years, and cumulatively the total energy savings from these 16 regulations – each between 0.01 quads and 0.31 quads was well less than the average of all 42. Twelve of these regulations were under 0.2 quads of energy savings.

The point is one of diminishing returns in an increasing number of these regulatory cases. For example, higher energy conservation standards for distribution transformers, fluorescent ballasts, certain types of light bulbs (lamps), exit signs, and integral electric motors can no longer be justified. The regulatory end game for those products is in plain sight and should be greeted with a sense of accomplishment, not unmet expectations.

The cost of a higher energy metric to consumers and users of integral electric motors cannot be offset by future energy savings from a higher regulation. Distribution transformers are now required to be approximately 99% efficient. Are more efficient transformers available to utilities who want them? Yes, but the utilities should be making the choice now whether to buy a transformer that is a few tenths of a percent more efficient at a much higher cost. . There will be impacts on the domestic steel companies and their employees who currently supply the electrical steel used to make transformers today if only the most efficient transformer is available. At a higher energy metric for distribution transformers, utilities would have no alternative choices among products and the transformer would be effectively commoditized by government regulation. In these circumstances, the utilities and industrial customers would lose the choice as to which of the fewer available transformers, at different prices and efficiencies, are cost-effective for them.

One of the criteria that the Department of Energy examines when it evaluates whether a higher energy metric can be justified or not is the impact on the value of the industry that manufacturers the particular regulated product. This analysis involves studying manufacturer cash flows as a result of the regulation and translating those estimates into a number that measures the change in the present value of the industry. Not surprisingly that change is almost always a negative. The important question is: how negative is the number? In comments to the Department of Energy, NEMA has pointed out that the U.S. lighting industry has been through multiple DOE regulatory actions with several of them resulting in the highest negative changes in industry values of all the DOE rulemakings. We have seen above-average declines in segments of the lighting industry's value as a result of the regulatory actions ranging from minus 15% (2009 fluorescent lamps) to minus 36.7% (fluorescent lamp ballasts). In the case of fluorescent lamps, a subsequent 2015 regulation that estimated a minus 21.3% decline in industry value on top of the minus 15% decline only six years earlier. The lighting industry also experienced a minus 20.4% decline in the 2009 reflector lamp regulation, and a minus 26.7% decline in the case of metal halide lamp fixtures. Since many of the U.S. lighting product manufacturers are impacted by several or all of these rulemakings the cumulative impacts of multiple serial regulatory actions is substantial.

While NEMA and its Members have been supportive and continue to be supportive of an energy efficient economy, it is time for Congress to examine and consider changing the energy efficiency regulation scheme it created 40 years ago that focuses on components and products and move in another direction. The serial regulatory scheme is no longer making sense for many if not most regulated products. The burdens on manufacturers, their employees, and their customers are not sustainable when regulation repeatedly revisits the same components and products looking for more.

What Lies Ahead?

Should Congress scrap the Department of Energy's energy conservation standards program altogether? NEMA is not advocating for that outcome. We submit that there are certain products that are easily identified as no longer providing significant additional benefits to justify continuing regulatory action. From a regulatory perspective, these products have matured out of the program. Congress and States regularly sunset regulatory laws after a period of time; Congress should learn from this experience. If there are products that have not been investigated yet for their economically justified and significant energy savings potential, the DOE standards program can focus on those products.

What are the other programs to consider to promote energy conservation? There are several and many of them are already being utilized:

- Programs and incentives to encourage the adoption of the more energy efficient products available in the market. Industry and competition among manufacturers has created and brought to market energy saving product solutions. Congress and the DOE have eliminated the least efficacious products from the market. The focus of an energy efficient economy should be on promoting the installation of those efficient products that our Members have invented and commercialized. The EPA's ENERGY STAR program is one example of the type of program that works as long as it does not become a burdensome regulatory creature of its own.
- Tax incentives have also been effective in building more energy efficient buildings by incorporating energy saving components into them.
- State energy codes that establish performance-based requirements for the energy use of the entire building envelope without specifying particular technologies or products required to meet the goal can also be effective. These building codes can take a systems approach to energy consumption rather than a component or product approach.
- Ensuring that there is access to capital to finance energy saving investments through a tax code that rewards such investments.
- Use of Energy Savings Performance Contracts (ESPCs) whereby a contractor makes the investment in the installed set of energy savings equipment, products and management devices without cost to the owner and realizes the payback from the energy savings realized on that investment. ESPCs represent an important tool for reducing energy costs in the public sector.

As NEMA pointed out in its recent comments to DOE in connection with the pending light bulb rule, we can see how other approaches to promoting energy conservation can be successful without a product specific heavy regulatory hand. Ten years ago, Congress was inspired by new more efficient light bulb products developed by lighting manufacturers and was also inspired by growing manufacturer investment in even more lighting utilizing solid-state LED technology. The LED lighting products did not substantially exist in 2007, but there was promise in the research program. In the Energy Independence and Security Act of 2007 (EISA), Congress established a supportive environment for the development and commercialization of LED lighting. In addition to provisions containing incentives to develop a commercial LED lighting product quickly, encouraging federal procurement of LED lights when they became available on the market, Congress also asked the Federal Trade Commission to work with manufacturers to educate and inform consumers about the benefits of LED lights and label products so that the energy saving benefits were clearly explained. Manufacturers worked with their channel partners, who sell and install lighting products, to educate them as well as consumers about these energy saving benefits. The EPA's ENERGY STAR program for light bulbs has evolved to focus on LED lights and encourage customer recognition and adoption of LED lights. The Department of Energy's research mission supported projects aimed at reducing the cost of manufacturing LED lamps and improving quality. And manufacturers innovated, reduced cost, spurred by a healthy competitive environment in the lighting industry.

In just a few short years, we have watched the A-line LED light bulb enter the market at $60.00 per bulb and fall to below $5.00 per bulb currently, and prices are expected to fall further. Consumers are attracted to the LED product as well. The share of regulated A-line incandescent lamp shipments was close to 70% in 2011, and is now below 50%. Meanwhile, A-line LED lamp shipments have penetrated 26% of sales in the first quarter of 2016, up from virtually nothing two years ago. The penetration of LED lighting in commercial buildings is quite substantial, and presence of LED lighting on major retail store shelves is quite significant. The compact fluorescent lamp, formerly the energy saving alternative to the incandescent lamp, never experienced that market phenomenon so rapidly. And, these same fluorescent lamps are falling fast as a percentage of the market from 47% in the fourth quarter 2014 to 19 % in the first quarter 2016. Makes one wonder why they seem to need further regulation in the eyes of DOE.

And at the same time, we are calling on the Department of Energy to ensure that consumers have choices among competing technologies for lighting products. No one technology is appropriate for every lighting application. With choices, the market's drive to save energy will be enhanced.

Concluding Thoughts

NEMA's approach (and our manufacturer Members' approach) to our industry's contribution to the energy efficient economy has been consistent with the balancing act that is reflected in the law. We have made constructive proposals to both Congress and the DOE to advance energy efficiency where we believed it was justified and where the energy savings were significant. We have resisted regulation for the sake of "doing something more" where the benefits were not significant or the costs for our industry's customers was just too much.

The 40-year old model of regulating the energy use of components and products forever is witnessing diminishing marginal returns to our citizens --- employers, employees, customers and consumers --- and for those long-regulated products there are better ways to support energy conservation than that regulatory model. We have other concerns about the regulatory model, but the serial regulatory action that Congress has built into the law is seeing its limits and needs a legislative overhaul that builds on the success of the last 40 years rather than just perpetuating the same lock step approach.

Thank you for this opportunity to testify, and I look forward to your questions.

Mr. WHITFIELD. Thank you, Mr. Cosgriff.

At this time, our next witness is Mr. Thomas Eckman, who is the director of the Power Division of the Northwest Power and Conservation Council. Thanks for being with us, and you are recognized for 5 minutes.

STATEMENT OF TOM ECKMAN

Mr. ECKMAN. Thank you, Mr. Chairman and Ranking Member Rush. My name is Tom Eckman. I am the Director of Power Planning for the Northwest Power and Conservation Council. I will start with a very quick thumbnail of who we are. Since there are no northwest delegates here, I thought you might—it might be important to figure out why I am here representing the northwest.

The Northwest Power and Conservation Council was established under a congressional authorization under the Northwest Power and Conservation Act of 1980, public law 96–501. We are an interstate compact authorized by you folks here in Congress to do power planning for the northwest. So we, for the States of Oregon, Washington, Idaho, and western Montana, we produce a 20-year power forecast of future needs and a resource plan to meet those needs for electricity, and our statutory requirement is that we are to treat energy efficiency as one of the resources we can rely on to meet those needs.

Over the past three decades, 3 ½, 35 years, we produced seven different power plans. We are to update those plans every 5 years, so we started back in 1982 with the first plan, and called for cost-effective energy efficiency to be a major component of that planning process as directed by Congress.

Over that past 35 years, energy efficiency has been a very significant contributor to the northwest economy and to meeting our needs. In summary, since 1980, the northwest region has saved enough electricity through codes and standards, utility programs, to be equivalent of roughly six Seattles in annual electricity consumption, or more than one and one quarter times the actual consumption of the State of Oregon, so it is a significant contributor. It roughly represents our second largest resource in the region. It has met 55 percent of low growth since 1980, so we really believe in energy efficiency that is cost effective.

The reason I am here is to talk to you about the role that Federal standards have played in making that happen and what they look like going forward. Over the past 35 years, Federal standards have basically produced one-fifth of the total savings that we have been able to achieve. Energy code is about 20 percent, and the remaining through rate pair-funded utility programs. One-fifth of the savings turns out to be worth about $1 billion in annual savings out of the—on an annual basis, and saves about 5 million metric tons of carbon off of our system. And we have a very clean system because about half of our power comes from hydroelectricity. So that is a significant component of us. It is about 10 percent of our total carbon emissions on an annual basis.

So on a going-forward basis, we looked at the Federal standards that have been adopted between 2009 and 2014. Those standards alone will reduce our forecast low growth from 1.1 percent to .8 percent, about 30 percent reduction in low growth. Again, saving

significant consumer cost for new generation and saving consumer pain and agony from carbon emissions. So we are here to support those standards because not only have they been a huge benefit to us, but we have been involved in the negotiations that led to not only the Federal standards, but many of the standards that have been adopted since 20—since 1987.

I am a member of the Appliance Standards Rulemaking Advisory Committee that was appointed by DOE to facilitate better communication between manufacturers and advocates for energy efficiency to begin to develop more transparent and open processes to engage in rulemaking. And that—since the advent of that committee, which was basically formed at the behest of the Department itself because it understood that it could do a better job of rulemaking in the negotiations, and it could, in a standard notice and comment process, it can't always do a better job, but in some instances, particularly Elizabeth noted the appliance rulemaking for air conditioners and package rooftop systems, those consensus agreements between manufacturers and advocates have produced better standards, more regulatory certainty on behalf of the manufacturers, and greater compromise and facility to implement standards on behalf of the manufacturers.

So I think those—that particular improvement was not envisioned in the original statute, but as a regulatory process that DOE implemented on a voluntary basis and has improved immeasurably the transparency of the standards development process on a going-forward basis, and I think that we can talk more about that in the time that you have questions for me. I will stop there. Thank you.

[The prepared statement of Mr. Eckman follows:]

Northwest **Power** and **Conservation** Council

Invited Testimony of Tom Eckman
Director, Power Division
Northwest Power and Conservation Council
Before the
House Subcommittee on Energy and Power
Regarding
Home Appliance Energy Efficiency Standards Under the Department of Energy
Stakeholder Perspectives
June 10, 2016

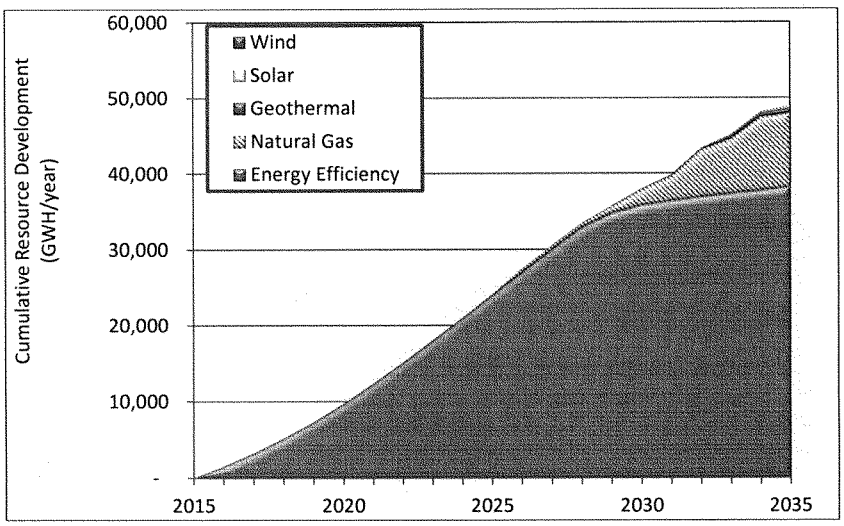
The Northwest Power and Conservation Council (Council) appreciates the opportunity to share its views on the Department of Energy Appliance Standard's process and impacts on consumers in our region. The Council is an interstate agency that was formed in 1981 by the states of Idaho, Montana, Oregon and Washington under Congressional authorization granted by the Northwest Electric Power Planning and Conservation Act of 1980 (Power Act).[1] This federal statute charged the Council with developing a regional power and conservation plan to assure the Pacific Northwest of an adequate, efficient, economical, and reliable power supply and to protect, mitigate and enhance the fish and wildlife resources impacted by the development and operation of the federal hydroelectric generating projects on the Columbia and Snake Rivers. Also under this federal statute, cost-effective energy efficiency was designated as the first priority resource to be relied upon to meet future power needs, followed by renewable resources and then conventional thermal generation.

Before commenting specifically on the topic of this hearing, I believe it would be useful to provide some context so that the Subcommittee members may better understand the Council's views on the role of federal appliance efficiency standards. In particular, their role in fulfilling the charge given the Council under the Power Act to assure an adequate, efficient, economical and reliable power system.

[1] 16 United States Code Chapter 12H (1994 & Supp. I 1995). Act of Dec. 5, 1980, 94 Stat. 2697. Public Law No. 96-501, S. 885.

The Power Act directed the Council to develop a 20 year forecast of future electric power needs and a plan to meet those needs with a least cost mix of resources, including energy efficiency. These forecast and plans were to be reviewed and updated every five years. The Council just adopted its Seventh Regional Power Plan in February of this year. The Seventh Plan, as have all prior plans, relies heavily on energy efficiency to meet future load growth. Figure 1 shows the resources targeted for development over the next 20 years to meet the Northwest forecast future need for electricity. An inspection of Figure 1 shows that the development of cost-effective energy efficiency dominates the region's future resource portfolio. In fact, energy efficiency is expected to meet all regional load growth through the year 2030 under nearly all future economic conditions tested.

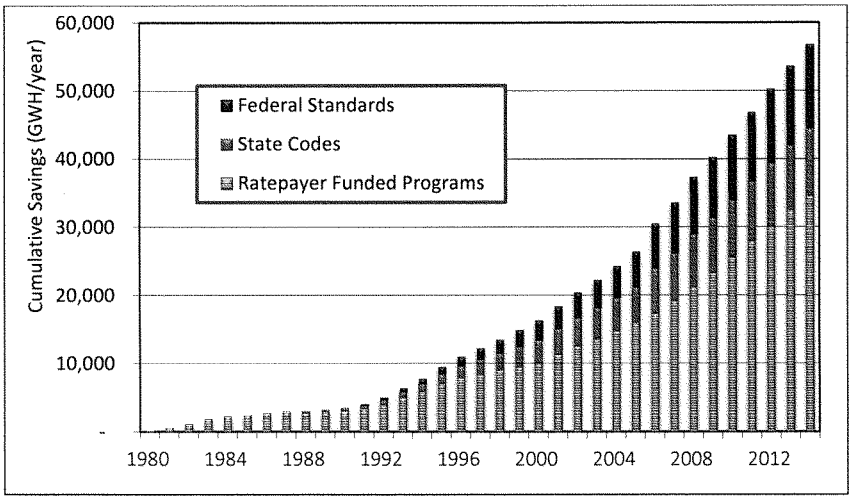
Figure 1 – Seventh Power Plan Resource Strategy



The Seventh Power Plan's reliance on cost-effective energy efficiency to meet future Northwest load growth builds on 35 years of actual experience. The Council has tracked regional energy efficiency impacts since the Power Act was enacted in 1980. Figure 2 shows the cumulative savings from energy efficiency developed in the Northwest since 1980. In 2014, the most recent year for which data is available, regional energy efficiency savings from all mechanisms totaled nearly 57,000 gigawatt-hours per year (GWh/yr.). To place this in perspective, this is equivalent to the annual electricity use of almost six Seattles, and more than one and one-quarter times the total annual electricity use of the entire state of Oregon.

Relevant to the subject of this hearing is that inspection of Figure 2 also shows that federal standards adopted through both Congressional action and the Department of Energy regulatory proceedings accounted for over one-fifth of the savings since 1980.

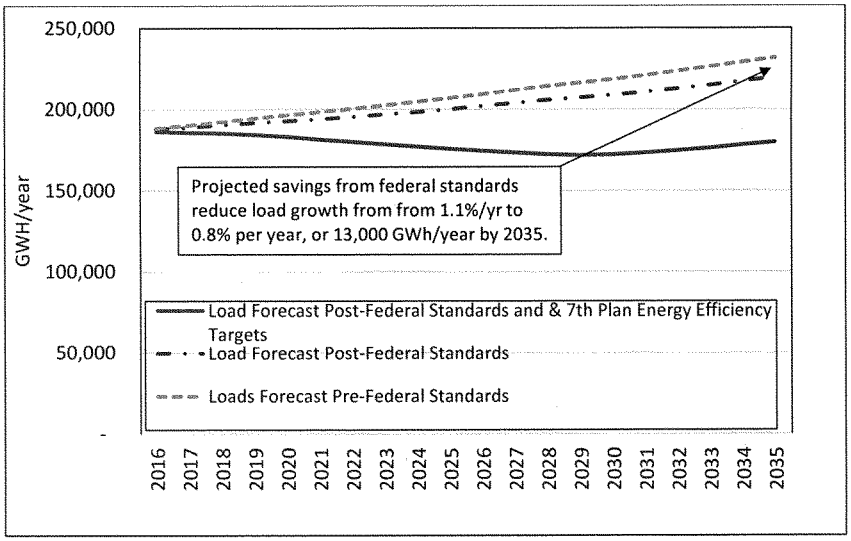
Figure 2 – Cumulative Electric Energy Efficiency Savings for the Northwest States since Passage of the Northwest Electric Power Planning and Conservation Act of 1980 by Source of Savings



Moving beyond the energy savings, the Council estimates that in 2014 alone the electricity savings from federal standards reduced regional consumers' power bills by nearly $1 billion and avoided just over 5 million metric tons of carbon dioxide emissions.

From the data shown in Figure 2 it is clear that federal standards have historically played a major role in improving the efficiency of electricity use across the Northwest states and have resulted in significant consumer economic benefits. On a prospective basis, savings from federal standards also reduce the need to add new power generation facilities. As noted above the Council is required under the Power Act to forecast future demand for electricity over the next twenty years. In this process the Council identifies the key factors that could impact future power needs, such as the pace of economic and population growth, the potential adoption of new technologies (i.e. electric vehicles, solar PV) and known changes federal standards and state energy codes. When the Council developed its long-term load forecast for the Seventh Power Plan it therefore, accounted for the federal standards that the Department of Energy had finalized as of the end of 2014. Figure 3 shows the impact on future load growth from the federal standards finalize after the Council developed the load forecast for its Sixth Power Plan in 2009 and when it developed the load forecast for its Seventh Power Plan early in 2015.

Figure 3 – Impact of Federal Standards on Forecast Northwest Regional Electricity Load Growth 2015 - 2035 (Medium Forecast)



As can be seen from a review of Figure 3, the Council estimates that federal standards finalized by the Department of Energy between 2010 and the end of 2014 will reduce Northwest electricity load growth from 1.1% per year to 0.8% per year, producing savings of nearly 13,000 gigawatt-hours in 2035.[2]

Although both regulatory mechanisms and ratepayer funded programs are needed to secure all cost-effective savings, in the Council's view securing efficiency improvement through regulations such as appliance standards and state energy codes have several significant advantages over ratepayer funded programs. First, federal standards (and state energy codes) produce savings at lower "total cost" because they avoid utility program administrative costs. Second, federal standards (and state energy codes) effect the entire market while programs effect only a portion of the market. As a result standards product greater total savings for comparable improvements in per appliance or per product efficiency. Finally, acquiring savings through federal standards is more equitable because the "cost" of meeting a standard is borne directly by the consumers who benefit from the increased efficiency through lower power or natural gas bills.

Turning now to the Department of Energy's standards development process. The Council has been actively engaged in the Department rulemaking processes since the

[2] Additional load reductions will come from new and revised standards adopted since the end of 2014 when the Council finalized the load forecast shown in Figure 3. The Council has not yet estimated the impact of standards adopted since December of 2014 on future Northwest electricity loads.

early 1990's following the enactment of the National Appliance Energy Conservation Act of 1987. I have represented the Council in the Department's regulatory proceedings, including the "process improvement" rulemaking and more recently as a member of the Department's Appliance Standards Rulemaking Federal Advisory Committee (ASRAC). Based on over 25 years of personal engagement in the Department's federal standards regulatory proceedings, in my judgement the current process, while not without flaws, is far more transparent and offers greater opportunity for stakeholder involvement than any prior period. A bit of history is instructive here.

Prior to the establishment of the ASRAC "informal" negotiations between manufacturers and energy efficiency advocates were the only vehicle open to parties to collaborate on determining what might be mutually acceptable appliance standards. Starting in the mid-2000s during the informal negotiations between "white goods" manufactures and "efficiency advocates," the Department, for the first time made available its technical consultant teams to support the negotiations. While these consultants took no position in these negotiation they were able to gain greater insight into the issues facing manufacturers and improve the information on which to base the Department's analysis.

At least in part, based on its positive experience supporting the informal negotiations on "white goods" efficiency standards, the Department convened a more formal negotiated rulemaking on electric transformers under the auspices of its agency level advisory committee. This time the Department's technical consultants and agency representatives supported the negotiations. Again, both agency staff and technical consultants were able to obtain better data and improve their understanding of stakeholder concerns and positions that in the standard "notice and comment" process called for under the process improvement rule.

Following its success with both the "white goods" and electricity transformer negotiations the Department formally established the ASRAC to facilitate more formal negotiated regulations. Since the establishment of the ASRAC, multiple workgroups have successfully negotiated both test procedures and efficiency standards that the Department issued as final rules. These negotiated rulemakings are successful because the parties have greater access to Department consultants and agency staff and consultants and agency staff have more direct communications with manufacturers and advocates. This process improves not only the data on which the standards are based, but improves the understanding of all parties with respect to the costs and benefits associated with increasing minimum efficiency requirements.

In summary, the federal appliance efficiency standards have and are forecast to continue to be a significant benefit to the Northwest power system and Northwest electricity consumers. The Department of Energy's rulemaking process, while not without minor flaws, is far more transparent and offers greater opportunity for stakeholder involvement than any prior period since the first standards were established by Congress in 1987.

Mr. WHITFIELD. Thanks, Mr. Eckman.

And our next witness, and last witness, is Mr. Stephen Yurek, who is the president and CEO in the Air-Conditioning, Heating and Refrigeration Institute. So thanks for being with us, and you are recognized for 5 minutes.

STATEMENT OF STEPHEN R. YUREK

Mr. YUREK. Thank you, Chairman Whitfield, Ranking Member Rush, and members of the subcommittee for inviting me to testify on this important topic. I am Steve Yurek, and I am the president and CEO of the Air-Conditioning, Heating and Refrigeration Institute. AHRI has 315 member companies that manufacture more than 90 percent of the residential, commercial, and industry air conditioning, space heating, water heating, and commercial refrigeration equipment sold and installed in North America.

Our members employ over 100,000 people in manufacturing, and more than 1 million American jobs when you include those involved in distribution, installation, and maintenance of our equipment. I want to make it clear that our industry has a long record of leadership when it comes to innovation, energy efficiency, and environmental stewardship. In fact, the equipment our members produce is 50 percent more efficient than it was just 20 years ago. But even as we innovate and develop the next generation of highly efficient equipment, we always have in mind the needs of our customers who are, after all, the people who buy and use our equipment.

We have three main concerns with the current statutes that I would like to discuss today. First, the authority Congress set forth for setting efficiency standards, the Energy Policy Conservation Act, is 40 years old and has not been undated to reflect new technologies and economic realities.

Two, in addition to the impact in our industries, consumers are paying a heavy price, both in real monetary costs and in comfort and safety. When new equipment costs more than consumers can afford, they find alternatives, some of which compromise their comfort and safety while saving less energy, and in some cases, actually using more energy.

Finally, American jobs are being lost, in part, because of the promulgation of ever more stringent deficiency regulations, and the worse thing is, DOE admits that these regulations cost jobs.

While the Clinton administration issued six major efficiency rules during his 8 years in office, the current administration issued eight major efficiency rules in 2014 alone. There are real consequences from this rush to regulate. Yes, complying with these rules cost my member companies millions and millions of dollars, but what is far more important, it should be far more worry to Congress, is that American jobs are being lost, and consumers, who are already feeling financially squeezed, are being forced to pay more for products they rely on in their everyday lives from comfort cooling and heating, to refrigeration, to hot water.

EPCA requires that all efficiency standards meet the twin tests of technically feasible and economically justified, and yet, DOE has issued rules that use unrealistic assumptions in its analyses to justify higher efficiency levels. I will give you a couple of examples.

For commercial boilers, DOE estimates the new standard would save just eight-tenths of a percent more energy than the existing standard, but would cost manufacturers up to $24 million to comply. For residential boilers and commercial refrigeration equipment, DOE justified the economic impact of the higher efficiency levels by using the assumption that no matter how much the product increases in price, demand for that product would never decrease.

Every time DOE issues a new rule, it issues a press release estimating the rule's benefit in cost savings for consumers and energy savings for the Nation based on theoretical models. DOE has never looked back to see what the energy savings actually were, or if consumers actually ever benefited from spending more money, and the current law does not even require such a review.

Finally, DOE projects future job losses in several of its rulemakings for our products. For example, in two separate rulemakings for different types of commercial air-conditioning units, DOE noted small business manufacturers would need to redesign their entire private offering or leave the market. DOE acknowledged a potential scenario in which a rulemaking for commercial refrigeration equipment could cause all existing production to be moved outside of the United States, resulting in a loss of over 3,500 jobs.

Changes to EPCA should be implemented in phases with the collaboration of all stakeholders. I urge all members of the upcoming conference committee to ensure that the technical corrections in H.R. 8 remain part of the final energy bill. Broader EPCA reform should stress flexibility, enhance technical and economic justifications, and the process should be overhauled to maximize transparency and stakeholder engagement. Congress should require DOE to convene stakeholders to discuss and recommend a new regulatory framework.

AHRI is ready to work with Congress, DOE, and other stakeholders on ways we can, together, fix and update this 40-year-old law to create a new, more open process, conserve energy, help manufacturers remain competitive in the global marketplace, and benefit all consumers. I appreciate the chance to appear today, and I look forward to answering any questions you might have and to working with you as we move forward on this important issue.

[The prepared statement of Mr. Yurek follows:]

Testimony of Stephen R. Yurek
President and CEO

Air-Conditioning, Heating and Refrigeration Institute
("AHRI")

Before the
Subcommittee on Energy and Power
U.S. House of Representatives

Hearing on
Home Appliance energy Efficiency Standards Under the
Department of Energy – Stakeholder Perspectives

June 10, 2016

Summary

The Issues:

The Energy Policy and Conservation Act, or EPCA -- is almost 40 years old and has not been updated to reflect new technologies and economic realities. An endless cycle of efficiency rulemakings continues to have an adverse impact on our global competitiveness and the American jobs we create. Consumers are being asked to pay more than they can afford for heating, cooling, and water heating equipment, which can lead to use of alternatives, some of which compromise consumer comfort and safety, while saving less energy or in some cases using more energy.

Our Proposed Solution:

Congress should:

- Include the technical corrections to EPCA that are contained in H.R. 8.
- Ensure that new efficiency standards are justified by requiring regulators to analyze the current standard to determine its effectiveness with respect to costs and energy savings.
- Institute a more realistic standards revision schedule to allow time for manufacturers and the market to adjust to new standards and regulators to use a more inclusive rulemaking process.
- Convene all stakeholders for the purpose of creating a new regulatory framework for federal energy efficiency rulemakings, while not impacting those currently in place or in the pipeline.

Introduction

Chairman Whitfield, Ranking Member Rush, and Members of the Subcommittee, good morning and thank you for inviting me to testify on this important topic. My name is Stephen Yurek and I am the President and CEO of the Air-Conditioning, Heating, and Refrigeration Institute (AHRI).

AHRI has 315 member companies that manufacture quality, safe, efficient, and innovative residential, commercial, and industrial air conditioning, space heating, water heating, and commercial refrigeration equipment and components for sale in North America and around the world. AHRI's member companies represent more than 90 percent of the HVACR and water heating equipment manufactured and sold in North America and employ over 100,000 people in manufacturing plants around the United States. That number increases to more than a million American jobs when you include those involved in distribution, installation, and maintenance of the equipment our members manufacture.

I want to make it clear that our industry has a long and proven record of leadership when it comes to innovation and energy efficiency. In fact, the products and equipment our members produce are 50 percent more efficient than they were just 20 years ago. But even as we innovate and develop the next generation of highly efficient equipment, we always have in the back of our collective minds the needs of our customers who are, after all, the people who buy and use our equipment to cool their data centers and hospitals, and heat their schools and homes. It is the goal of every business to provide what the customer needs, and in our case, that means offering products in a wide range of price points with a wide range of features. In short, we recognize

that not all of our customers can afford the top-of-the-line, highest efficiency equipment, but when the government keeps promulgating regulations that increase the cost of our equipment, we end up in the situation in which we find ourselves today, where innovation loses to regulations, and customers find their only option is to repair older equipment than buy new higher efficiency products.

I am here today to discuss three main points:

One, the process Congress set forth for setting efficiency standards – that is, the Energy Policy and Conservation Act, or EPCA -- is almost 40 years old and has not been updated to reflect new technologies and economic realities. In addition, it has been misapplied by the Department of Energy on some occasions, and Congress has had to step in several times to fix DOE rulemaking errors, the most recent occurrence being just last year[1].

Two, in addition to the impact on our industry, consumers are paying a heavy price, both in real monetary costs and in comfort and safety, for this endless cycle of rulemakings resulting in higher and higher efficiency mandates. When new products and equipment cost more than consumers can afford, they find alternatives, some of which compromise their comfort and safety, while saving less energy or none at all or in some cases using more energy.

Finally, American jobs are being lost – many of them exported – because of the promulgation of ever more stringent efficiency regulations. Our industry has lost *one third* of its workforce in the

[1] S. 535, Energy Efficiency Improvement Act of 2015, Section 201, Grid-enabled water heaters

United States since 2001 – that is according to the Bureau of Labor Statistics[2]. Of the 55,000 jobs lost since 2001, nearly 30,000 were lost between 2001 and 2005, before the recession. And the worst thing is, as I will illustrate in a moment, regulators admit that these regulations cost jobs.

Mr. Chairman, my members have been working for years to meet regulation after regulation. While the Clinton Administration's DOE issued just six major efficiency rules during his eight years in office, the Obama Administration's DOE issued eight major efficiency rules *in 2014 alone* – a record, according to the Office of Information and Regulatory Affairs (OIRA). And DOE's Unified Agenda[3] indicates that between 2015 and the end of the administration, 11 additional major efficiency rules can be expected to be issued.

There are very real consequences from this rush to regulate. Yes, complying with these rules costs my member companies millions and millions of dollars, but what is far more important – and should be far more worrying to Congress – is that American jobs are being lost and consumers, who are already feeling severe wage squeezes, are being forced to pay more for products they rely on in their everyday lives, from comfort cooling and heating to refrigeration to hot water.

As passed by Congress and amended several times, EPCA requires that all efficiency standards meet the twin tests of economic justification and technological feasibility. That means that rules

[2] U.S. Department of Labor, Bureau of Labor Statistics, http://data.bls.gov/pdq/surveyoutputservlet
[3] Office of Information and Regulatory Affairs, Office of Management and Budget, http://www.reginfo.gov/public/do/eAgendaMain?operation=OPERATION_GET_AGENCY_RULE_LIST&currentPub=true&agencyCode=&showStage=active&agencyCd=1900&Image58.x=24&Image58.y=9

should not place an undue burden on either industry or consumers and that DOE may not set efficiency standards at such a level as to be infeasible for manufacturers to make the product. And yet, DOE has issued rules that use unrealistic assumptions in its analyses to justify higher efficiency levels than are economically justified for consumers. I will give you a few examples:

- Those same regulators proposed a new rule setting standards for commercial packaged boilers[4] that would save just eight tenths of a percent more energy than the existing standard, but would cost manufacturers between 13.1 and 23.8 *million dollars* to produce a new line of equipment.

- In rules setting new standards for residential boilers[5] and commercial refrigeration equipment[6], regulators justified the economic impact of the higher efficiency levels by assuming that no matter how much a product increases in price, demand for that product would never decrease. In fact, we have seen in our own research that consumers will look for cheaper, less efficient alternatives to meet their heating and cooling needs to avoid paying a higher price.

- Because of a provision known as the "anti-back sliding provision,"[7] DOE is prohibited from making any modifications to an effective rule if that modification could be construed as increasing energy use, even if there are mistakes in the rule. Several times

[4] Energy Conservation Program: Energy Conservation Standards for Commercial Packaged Boilers; Proposed Rule, 81 Fed. Reg. 15,836 (March 24, 2016).
[5] Energy Conservation Program: Energy Conservation Standards for Residential Boilers: Final Rule 81 Fed. Reg. 2,320 (January 15, 2016).
[6] Energy Conservation Program: Energy Conservation Standards for Commercial Refrigeration Equipment; Final Rule 79 Fed. Reg. 17,726 (March 28, 2014).
[7] 42 U.S.C 6295(o)(1)

Congress has enacted specific legislation to fix DOE's rules. This provision needs to be modified.

- Finally, in its commercial refrigeration rule[8], DOE estimated that roughly half of end users (convenience stores, supermarkets, delis, bars, and restaurants) would actually lose money if the standard were implemented, and yet it went ahead anyway.

Every time DOE issues a new rule, it issues a press release that extols its estimate of the rule's benefits in cost savings for consumers and energy savings for the nation. It is important to bear in mind that in nearly every case, the product or equipment at the new mandated efficiency level is already available for purchase. A consumer or business could at any time go ahead and buy that product on their own without any "help" from the government. So, these regulations are forcing consumers to spend more money to purchase equipment they do not value at that particular time based on theoretical models that project that energy will be saved and consumers will benefit. DOE has never looked back to see what the energy savings actually were or if consumers actually ever benefited from spending more money.

Cost is important to consumers – even more so now than in the past. In a 2015 national consumer survey[9], one quarter of homeowners said that cost was the most important consideration when shopping for new HVAC and water heating equipment for their homes. That is more than double the percentage in a 2007 survey of a similar nature. Energy savings were the most important factor for only 10 percent of those surveyed, which was down from 17 percent in

[8] Energy Conservation Program: Energy Conservation Standards for Commercial Refrigeration Equipment; Final Rule 79 Fed. Reg. 17,726 (March 28, 2014).
[9] Finn Partners (for AHRI), National Consumer Survey, June 2015

2007. And one of the reasons cost is so important to consumers is that many of them have very little in the way of emergency savings. A Federal Reserve survey[10] issued just two weeks ago found that 46 percent of consumers don't have readily available cash for a $400 emergency. The vast majority of new equipment purchases in our industry are unplanned.

Another method DOE utilizes to economically justify higher efficiency levels is by employing unrealistically low discount rates to make it appear that estimated benefits for large swaths of consumers are higher than they are. As my fellow panelist, Sofie Miller, noted in her 2015 paper[11] examining the benefits of energy efficiency rules between 2007 and 2014, DOE tallies the benefits of its standards by treating consumers as a homogeneous group, when that does not reflect reality, as noted earlier in the consumer survey. Miller notes that when consumers do not place the same value on energy efficient products that DOE does, the mandates represent huge net costs because consumers are forced to accept something they do not value if they want to be comfortable and safe in their homes. Either they accept the huge net costs or they find alternatives, such as repairing their old, less efficient equipment, which saves no energy, or purchasing stop-gap alternatives such as window units or portable heaters. I would submit to you that consumers should not be placed in that position by their government.

Finally, I would like to discuss jobs, which I know is a subject near and dear to the heart of every member of Congress, because we are talking about your constituents. I mentioned earlier that my industry has lost a third of its workforce over the past 15 years. While not all of that was due

[10] Federal Reserve System Report on the Economic Well-Being of U.S. Households, May 25, 2016 http://www.federalreserve.gov/2015-report-economic-well-being-us-households-201605.pdf

[11] *Whose Benefits Are They, Anyway?* Sofie E. Miller, The George Washington University Regulatory Studies Center https://regulatorystudies.columbian.gwu.edu/whose-benefits-are-they-anyway-examining-benefits-energy-efficiency-rules-2007-2014

to regulations, and I am not making that claim, regulations clearly are a significant factor and will continue to be a factor The Department of Energy projects future job losses in several of its rulemakings for our products:

- In its proposed rule for residential gas furnaces[12], DOE admits that small businesses would be adversely affected. One of those businesses represents 32 percent of the product listings in DOE's database, none of which meets the proposed standard. Another represents seven percent of the DOE database listings, and 91 percent of its products do not meet the proposed standard. Those businesses would have to invest significant resources to comply or face severe contraction or elimination.

- In its rule setting new standards for vertical air conditioning units[13], DOE estimates that 65 percent of the products manufactured by the small business with the largest segment market share would not meet the new standard. It noted that the other small business manufacturer would "need to redesign its entire product offering or leave the...market."

- In its proposed standard for residential furnaces[14], issued in March 2015, DOE estimated that total conversion costs are 244% greater for small businesses than other manufacturers. Capital conversion costs are 506% greater, and product conversion costs are 98% greater for small businesses than for their larger competitors.

[12] Energy Conservation Program for Consumer Products: Energy Conservation Standards for Residential Furnaces; Proposed Rule, 80 Fed. Reg. 13,119 (March 12, 2015).
[13] Energy Conservation Program: Energy Conservation Standards for Single Package Vertical Air Conditioners and Single Package Vertical Heat Pumps; Final Rule, 80 Fed. Reg. 57,438 (September 23, 2015).
[14] Energy Conservation Program for Consumer Products: Energy Conservation Standards for Residential Furnaces; Proposed Rule, 80 Fed. Reg. 13,119 (March 12, 2015).

- The Department of Energy in a recent rulemaking governing energy efficiency standards for commercial air conditioners[15] stated "It is possible that the small manufacturers will choose to leave the industry or choose to be purchased by or merged with larger market players."

- In the rulemaking for residential furnaces[16], DOE noted that the regulation would cost small businesses an estimated 18 percent of their revenue, while large companies would only have to absorb an estimated 3 percent hit.

- In a proposed rule for commercial refrigeration equipment[17], DOE acknowledged that in one potential scenario 3,672 jobs could be lost if "all existing production were moved outside of the United States."

I cannot be alone in believing that the United States government should not be in the business of encouraging the outsourcing of American jobs thus costing its citizens their livelihoods.

I have outlined some of what my industry believes are very serious issues with the current process. Now, I want to ask that the Committee consider three broad modifications to EPCA that will enable my industry and all stakeholders to institute a process that will be fair, open,

[15] Energy Conservation Program for Certain Industrial Equipment: Energy Conservation Standards for Small, Large, and Very Large Air-Cooled Commercial Package Air Conditioning and Heating Equipment and Commercial Warm Air Furnaces; Final Rule, (81 Fed. Reg. 2,420 (January 15, 2016).
[16] Energy Conservation Program for Consumer Products: Energy Conservation Standards for Residential Furnaces; Proposed Rule, 80 Fed. Reg. 13,119 (March 12, 2015).
[17] Energy Conservation Program: Energy Conservation Standards for Commercial Refrigeration Equipment; Final Rule 79 Fed. Reg. 17,726 (March 28, 2014).

effective, and equitable among all stakeholders. EPCA is now almost 40 years old, and was based on a very different economy and very different technologies. It is time that Congress convened stakeholders and revised the law to better reflect today's technologies and economic realities. These changes should be implemented in phases, with the collaboration of all stakeholders.

- First, the technical corrections passed by the House in December as part of H.R. 8 are important, yet stop-gap, measures that will interject rationality and openness into the rulemaking process. Mandating common sense solutions will allow DOE to base proposed standards on better assumptions and analyses. They will also force the Department to consider the real-world cumulative impact of product efficiency standards among agencies, businesses, and consumers. Finally, and just as vital, the language in H.R. 8 will give stakeholders at least 6 months to evaluate the feasibility of a proposed minimum efficiency standard if a new test procedure is also proposed. I urge all members of the upcoming conference committee to ensure these technical corrections remain part of the final energy bill.

- Second, deeper EPCA reform should stress flexibility and enhanced technical and economic justifications. In short, a substantive modification to various EPCA provisions is necessary if we are to achieve its original purpose: to drive energy efficiency while ensuring there is a benefit to all stakeholders. We must adjust to current technology in today's economy rather than work within a system established almost 40 years ago.

- Finally, fundamental EPCA processes need to be overhauled to maximize transparency and stakeholder engagement. Institutionalizing deliberative procedures in the ordinary course of rulemaking is vital to ensure that rules are truly responsive to the needs of all stakeholders. No one committee testimonial or single federal agency has all the answers to create a new regulatory framework. However, at the behest of Congress, a gathering of stakeholders could meet to discuss and recommend a new regulatory framework that will create a more open process, still conserve energy, and help manufacturers remain competitive in the global marketplace.

EPCA Reform Should Stress Flexibility and Enhanced Technical and Economic Justification.

Pursuant to the President's Climate Action Plan, the Department of Energy (DOE) has or will promulgate 23 product efficiency standards by 2018. As these rules are adopted, it is important that they be subjected to appropriate scrutiny, robust cost benefit analyses, and careful debate. Giving short shrift to such analysis may result in poorly constructed rules that place an undue burden on small businesses with wide-ranging ramifications for our industry and the 1 million employees who depend on it.

Such a robust process of justification and analysis was envisioned by Executive Order 13563, which was designed to improve regulation and regulatory review across the federal government. The order compelled each federal agency to make a "reasoned determination" that a regulation's benefits justify its costs. It further required that regulations be tailored to "impose the *least burden* on society," (emphasis added) while also taking into account "the cost of cumulative regulations." The President also issued a memorandum concerning small businesses that directed

agencies to comply with the Regulatory Flexibility Act, or RFA. The RFA directs agencies to examine the impact of regulations on small businesses and to consider more flexibility to minimize costs. While these declarations are an important starting point for assessing the true costs and benefits of ECPA-mandated efficiency standards, their application must be expanded if EPCA is to be appropriately tailored to the needs of a modern economy.

Specifically, these principles should be expanded as they apply to EPCA's requirement for mandatory, serial rulemakings. The Executive Order contemplates "flexible approaches" to regulatory activity and encourages the pursuit of "alternative regulatory approaches." Small businesses, in particular, feel the burden of expending resources --- including research and development, engineering, testing, supply chain and manufacturing work, and legal effort --- to come into compliance with ever increasing DOE-promulgated efficiency standards.

Yet, before or shortly after an efficiency standard's effective date, DOE announces the commencement of its work on the next version of that standard, and expects manufacturers to respond to and recommend a new set of standards. The endless work on minimum standards negate our members' substantial resource expenditures and start a cycle of continuous attempts to come into compliance. Manufacturers and the market are simply not given enough time to adjust to new regulatory requirements. Heating, cooling, water heating and refrigeration equipment is designed to remain in service for over a decade, so the market for new products must be viewed in the long-term, not in six-year increments.

Serial rulemaking must end, especially for products that have been through at least 2 full rulemakings. Furthermore, new, more onerous requirements need to be justified by more than "trivial" energy savings, and "significant energy savings" should be defined as a minimum of 1.0 quadrillion BTUs, or quad of energy savings.

A series of other process-based reforms also would add to the workability and flexibility of EPCA.

- First, the Committee could require a justification for new rulemakings. A "look back" provision could require that DOE's analysis and modeling tools be scrutinized to determine the salience of the previous rule as it pertains to actual energy savings and associated costs. The "look back" could also determine the extent to which DOE utilized actual market data to reflect the implementation and impact of the prior rule. This examination process could help to champion well-constructed rules that result in real-world, as opposed the theoretical, energy savings, while bringing to light and helping to reform poorly-constructed rules.

  As contemplated by Executive Order 13563, the "cost of cumulative regulations" should also be meaningfully taken into account as part of the justification for new rules. Specifically, costs and resource constraints caused by DOE product standards affecting the same companies should be specifically accounted for in the cost-benefit analysis so as to minimize regulatory burdens, heighten the potential for innovation, and ensure that EPCA truly comports with economic and environmental realities. In furtherance of these

goals, parties could also be allowed to petition to challenge the technical feasibility or economic justification underlying the rule. This modified "anti-backsliding" provision would help to address conflicting regulations or unseen economic events or circumstances that impact compliance.

- In addition, the Committee could enact process-based reforms that minimize transaction costs and fine-tune the regulatory process. Specifically, DOE should be provided with the flexibility to correct technical errors in a rulemaking before the amended standard becomes effective.

EPCA Processes Should Be Reformed To Maximize Transparency and Stakeholder Engagement. Transparency and accountability are not just abstract ideals, but are meaningful *processes* that help to facilitate sound regulations, policies, and decisions. Yet, as DOE promulgates rules according to an accelerated regulatory schedule, necessary constructive dialogue falls by the wayside. The end result has been numerous oversights, including errors in technical and economic assumptions. As a result, we sometimes find ourselves at loggerheads with DOE and must ask for Congressional intervention or even pursue legal relief. This combative approach becomes inevitable when DOE does not actively collaborate with all involved stakeholders throughout the rulemaking.

Policies that appropriately balance competing political and policy preferences emerge when industry and government works to create standards driven by consensus. Against this backdrop,

DOE's Process Improvement Rule[18] was intended to create a fair and balanced process for developing economic and technical analyses and the rules that flow from them. The rule was adopted by DOE in 1996 to satisfy a Congressional standards appropriations moratorium adopted in response to nontransparent DOE regulatory actions. Yet, as industry and DOE views increasingly come into conflict, it becomes clear that the rule is not being followed by DOE so inclusion of all or portions of the Process Rule could be made specific statutory requirements.

Success would also be easier to achieve if stakeholders had more regulatory tools at their disposal. I ask that the Committee consider requiring that DOE increase utilization of negotiated rulemakings in new or amended rulemakings. Such a requirement would facilitate dialogue, engagement and ultimately more sound regulations. Negotiated rulemakings are a more cost-effective, expeditious and open process with which to develop rules. Experience dictates that this has the potential to address numerous concerns relating to transparency, accountability, and the responsiveness to stakeholders.

This Administration has made tangible commitments to transparency. For example, a May 9, 2013 Executive Order aimed to make government information more readily available, explaining that:

> "openness in government strengthens our democracy, promotes the delivery of efficient and effective services to the public, and contributes to economic growth. As one vital benefit of open government, making information resources easy to find, accessible, and

[18] See 10 CFR 430, Subpart C, Appendix A.

> usable can fuel entrepreneurship, innovation, and scientific discovery that improves Americans' lives and contributes significantly to job creation."[19]

In spite of this proclamation, many DOE rulemakings are not fully transparent. DOE routinely does not provide full access to technical and economical analytical assumptions, methods, and models used to justify proposed efficiency levels. Making such information public would aid all involved parties in tailoring their approach to be collaborative, responsive, and in the interests of the economy and the environment. An ancillary benefit would be to clarify that DOE may not use methods or models that are protected by copyright or other legal agreement such that stakeholders are denied full access during the rulemaking process, as has been the case in the past. Rulemakings are conducted using taxpayer money and as such DOE should not be allowed to use methods or models not available for full review by the public and stakeholders.

Conclusion

Finally, Chairman Whitfield, Ranking Member Rush, and Members of the Subcommittee, as I stated earlier, the ideas presented in my testimony are not the only possible solutions to fixing, changing, or modernizing the regulatory process. They are, however, ideas that should be considered and discussed among all affected stakeholders. AHRI wants to be open and candid with Congress, allied trade associations, efficiency advocates, and the Department of Energy on ways we can all work together to fix and update this almost 40 year old law. We call on all stakeholders to join us and work together to craft an updated regulatory scheme that meets the needs of the current and future market while achieving the nation's efficiency goals.

[19] See: https://www.whitehouse.gov/the-press-office/2013/05/09/executive-order-making-open-and-machine-readable-new-default-government-

I appreciate the chance to appear today, I look forward to answering any questions you might have and to working with you as we move forward on this important issue.

Mr. WHITFIELD. Well, thank you, Mr. Yurek, and thank all of you very much for your testimony. We appreciate it, and I recognize myself for 5 minutes of questions.

Ms. Miller, the George Washington University Regulatory Studies Center, how old is the center?

Ms. MILLER. It began in 2009.

Mr. WHITFIELD. 2009.

Ms. MILLER. That is right.

Mr. WHITFIELD. And how long have you been there?

Ms. MILLER. Since 2012.

Mr. WHITFIELD. 2012.

Ms. MILLER. Uh-huh.

Mr. WHITFIELD. So if you were running for public office or you going to some Rotary Club speaking somewhere around the country, could you categorically say that these efficiency regulations are saving consumers money because the reduction of electricity cost exceeds the additional cost of the new appliance?

Ms. MILLER. I would say that these standards have very different effects on different households based on some of the characteristics that I mentioned, and also some that I state as well in my written testimony.

For instance, if you live in Texas, maybe it is more beneficial for you to have an efficient air conditioner, but do you care how efficient your furnace is, how often are you ever going to use it?

Mr. WHITFIELD. Right.

Ms. MILLER. In that case, you may not actually save any money by getting an efficient furnace. So I would say that different situations——

Mr. WHITFIELD. So geographical area would have an impact on it?

Ms. MILLER. Absolutely.

Mr. WHITFIELD. And then you indicated the use of the product, obviously, would have an impact on it. And you mentioned, I think, that some elderly people who maybe use it less would have less benefit from it as well. Is that correct?

Ms. MILLER. That is correct, and the Department used that in its analysis.

Mr. WHITFIELD. So you know, we—all of us make comments about, well, this is going to save money and so forth, but it is certainly possible, and in many instances, I would assume that low-income people and elderly are harmed more by these regulations perhaps than they are benefited. Would you agree with that?

Ms. MILLER. That seems to be the case, and the Department also does acknowledge that there are negative impacts on those groups in its own analyses.

Mr. WHITFIELD. OK.

Ms. MILLER. It is not a view that is outside the mainstream.

Mr. WHITFIELD. Well, you know, originally this started because of the Arab oil embargo. I think the reasoning that this all started was because of trying to conserve the use of energy. And certainly that has changed today because we have an abundance of energy in America, but today, it has become more of a climate change issue. That is what people talk about. Well, we have got to stop. We have got to be more efficient, less CO2, and so forth.

Now, Mr. McGuire, you and Mr. Cosgriff and Mr. Yurek all touched on this, a need for reform. And you all made some pretty strong statements. You said that sometimes the product is not going to be as effective. It is going to cost more to consumers. It is going to reduce consumer choice. And one comment I would also make on H.R. 8, which is our energy bill, one of the most controversial aspects of it related to the process that the DOE goes through in adopting these new standards.

For example, they really are not transparent on it. The data analysis is not really available until they are getting ready to notice it, and so all we were saying in this one provision, which was like we were turning the world upside down was, we want DOE to sit down with the manufacturers, the people who make these goods and have a more open and transparent discussion with them. I mean, you would agree with that, right?

Mr. MCGUIRE. We would agree with that, Mr. Chairman, and actually, that process that you are describing used to be used by the Department of Energy where manufacturers would have an opportunity to test a product under a new standard, or to even employ a new test procedure before you could determine whether a standard was appropriate.

But what we have seen in the last several years is because so many rulemakings are going on at the same time, that DOE has not been able to go through this very thorough process of let's do a test procedure and make sure that works. A test can be repeatable and reproducible before we set a standard so that companies can see if you can test a product. It is very—manufacturers spend an enormous amount of resources on compliance to these standards. The testing is very complicated.

Mr. WHITFIELD. Right.

Mr. MCGUIRE. These products are more sophisticated than they used to be, so you want to get that right. You don't want to——

Mr. WHITFIELD. Right.

Mr. MCGUIRE [continuing]. Mess that up. And what has happened is the process has become conflated, and it is very difficult to understand what is happening sometimes.

Mr. WHITFIELD. Mr. Cosgriff, do you agree with that basically?

Mr. COSGRIFF. I would agree with that, it made me think, as Mr. McGuire was answering your question, the product cycle of some of the products entering the market now in our area, LED lamps as an example is in many cases, less than a year. So if you miss one of these hurdles I refer to, you have missed a product cycle. That is a very big deal.

Mr. WHITFIELD. Yes.

Mr. COSGRIFF. And for a small or medium size company of which there is many making LEDs, that could be fatal.

Mr. WHITFIELD. Well, I have a lot of other questions, but my time has already expired. Mr. Rush, you are recognized for 5 minutes.

Mr. RUSH. I want to thank you again, Mr. Chairman. Ms. Noll, I want to thank you for your interesting testimony so far.

There is a question that I have and there is an argument that while the efficiency standards have been very valuable in reducing energy costs and consumption, many of these standards have already reached their maximum efficacy and we cannot squeeze any

more juice from the grapes in a certain manner of speaking. Do you agree with the statement that many of these appliances are as efficient as they can reasonably come, or is there—and there is no room to move forward with these new standards. Or do you believe that there is some more cost effective standards, and measures, and pathways that we could implement in order to greater have more efficiency than cost savings?

Ms. NOLL. Thank you Congressman Rush. Yes, I do think that there are more cost effective pathways to achieve greater energy savings that have yet to come. And I would begin by, as I stated in my opening remarks, the rule that was finalized just last year for commercial rooftop units represented the largest energy savings single standard in agency history. And that was the third time that that standard had been revised.

And while this is going to deliver huge consumer and environmental value, it was nowhere near the most energy-efficient technology that is commercially available. So it just suggests that there is still room to improve.

And I would also note that, as I mentioned in my opening remarks, that the forthcoming report from ACEEE and the appliance standards awareness project, looked at the rules that will be up for revision in the next 8 years and has shown that the energy savings opportunity from those rules will exceed that of which, of those that were finalized from the last 8 years. Again just further suggesting that—and some of those standards will be ones that will be products that have already had standards and have gone through revisions in the past.

And I would finally just say that standards increase innovation and that technological innovation creates new product features, new design opportunities. Our refrigerators today have more features than ever before. And that also could unlock opportunity for increased energy savings and that could form the baseline for future revisions to standards in the future.

Mr. RUSH. Yes, ma'am. I want to shift my focus, my office has had many conversations regarding energy efficiency standards for appliances and their impacts on low-income families. One of the arguments that we hear quite often is that the cost of complying with new energy efficiency standards will have a disproportionate impact on low-income consumers. How do you respond to this charge?

And secondly, are there any benefits to low-income households if industry is forced to comply with the most current energy-efficient appliance standards?

Ms. NOLL. Thank you. I guess I would begin by saying I know that the impacts on low-income customers is a priority of yours as it is for NRDC. And minimum efficiency standards set a dependable level of energy efficiency that every American can count on. Our analysis suggests that appliance standards will save the average American household, including low-income households, $500 a year compared to before standards were set. So that is significant.

And I agree that low-income households pay—a disproportionately higher portion of their income goes to energy costs. A recent report by NRDC and ACEEE shows that energy efficiency is a key strategy for addressing and reducing that energy burden that low-income households face.

So I would say that is why groups like the National Consumer Law Center and Texas ROSE and other consumer advocacy groups engage and are highly active in the standards setting process because of important benefits that it serves for the low-income populations that they support.

Mr. RUSH. Thank you, Mr. Chairman. I yield back.

Mr. WHITFIELD. The gentleman yields back. This time I recognize the gentleman from Illinois, Mr. Shimkus, for 5 minutes.

Mr. SHIMKUS. Thank you, Mr. Chairman. This is actually a very good panel. There really is more that unites us than divides us on this whole debate. And I think that is true across the board.

Ad first of all, for Mr. McGuire, Mr. Cosgriff and Mr. Yurek, you are saying that there is a need for some reform, but you are not claiming that there is a desire to jettison energy efficiency standards, are you?

Mr. MCGUIRE. No.

Mr. YUREK. No.

Mr. MCGUIRE. Not at all. We are supporters of the program——

Mr. SHIMKUS. OK. I am going to go quickly, so Mr. Cosgriff.

Mr. COSGRIFF. Absolutely not.

Mr. SHIMKUS. Mr. Yurek?

Mr. YUREK. No.

Mr. SHIMKUS. So this is an example of where we really can work together to get some sensible changes to affect folks like the narrative that I provided earlier today, there is a trap that people do fall into, from big Federal agencies, and the rolling out of regs, and as the fluorescent light bulb case, Mr. Cosgriff, that they get caught in a trap. You don't want to miss a cycle of putting a product on the shelves because for a small company that could be deadly.

So Ms. Noll, you did mention in the discussion with my colleague, Mr. Rush, that the confusing thing is we are not talking from a baseline of families. What is a family? What is the cost? I think Ms. Miller mentioned it, her cost in a two-family household is different than a family—I am one of seven kids, nine in the family grew up—a lot different costs, a lot different projected savings. Don't you think that if we are going to have this debate that the Department of Energy ought to help us define what is a family? What is a savings? And to have part of that transparency, Ms. Noll?

Ms. NOLL. Thank you. I would say that the Department of Energy does take into account many perspectives.

Mr. SHIMKUS. Buy don't you think they should help define this so we can have a better, accurate discussion of what these savings are and who they are—this amorphous savings is being disputed by economists based upon real data and real numbers.

Ms. NOLL. As many of the colleagues that I work with, we strive to find—get better data on——

Mr. SHIMKUS. The question is, shouldn't the Department of Energy help us define their savings? The answer is they don't.

Mr. Yurek, following up on this question, don't you think they should do a better job, the Department of Energy should help us define savings and costs?

Mr. YUREK. Yes. I think the process, the DOE is in a bind in some ways by the statutory language of this 40-year-old act and how they are required do the analysis. They are in a bind by the timeframe in which they need do all these rules. They don't have the time anymore because of all the rules that they are involved in, to do the deep analysis that they used to be able to do and confer with everybody.

And they also have the court order saying that they need to meet these deadlines so——

Mr. SHIMKUS. OK. Let's go quickly to job losses you highlighted in part of your written testimony. Talk about the job loss, and shouldn't the DOE talk about that there is a loss of jobs? Especially as you get to this point of again as again my colleague, Mr. Rush, says here how much juice are you squeezing from the grape? And you identified that in your testimony.

Mr. YUREK. Yes. No, I think that is one of the economic analyses that needs to be done. I think they forget the purpose of this act is not to go to the maximum tech and maximum efficiency, it is to slowly raise the bottom so that everybody can purchase that equipment and have those savings.

There are other programs such as Mr. McGuire mentioned related to Energy Star that are the pull, to get those other higher efficients, to get people to buy that equipment. What we are seeing now is that this program is being used to go to the max tech versus going the minimal level where people get savings and benefits but don't have the cost.

Mr. SHIMKUS. Aren't you asking for a return to a collaborative approach with the Department of Energy? Mr. McGuire?

Mr. MCGUIRE. Yes, we are——

Mr. SHIMKUS. Mr. Cosgriff?

Mr. COSGRIFF. More collaborative——

Mr. SHIMKUS. So I do have to applaud the DOE. We have actually been pressuring them for years and also the EPA to say, "tell us how that affects jobs." So in this most recent proposed rule, March 12, 2015, this is what it says.

Some large manufacturers have already begun moving production to lower-cost countries. Short-term, U.S. job loss. This is the Department of Energy saying that. And an amended standard that necessitate large increases in labor content or that requires large expenditures to retool facilities should cause other manufacturers to reevaluate production citing options.

What that means is, that if we squeeze too much—my colleague Mr. Rush—if we go too much, we lose jobs to overseas manufacturers and that would be unfortunate. Thank you, I yield back the balance of my time.

Mr. OLSON [presiding]. The gentleman's time has expired. The Chair recognizes the ranking member of the full committee, Mr. Pallone from New Jersey for 5 minutes.

Mr. PALLONE. Thank you, Mr. Chairman.

Ms. Noll, from listening to some of the people sitting next to you on the panel and some of my colleagues on the other side, you would think that the standards process has suddenly become for more contentious than it used to be.

In my opening statement I talk about the fact that the standard setting process has always yielded some controversy from one industry to another. And that is not to say that complaints or controversies weren't always important or even valid. But I just see some contention as an inevitable part of any meaningful standard setting process no matter how well it functions.

So while not every standard can be negotiated, my sense is that there has been more consensus than ever before, and that every industry trade represented here today has been involved in and has likely benefited from that consensus.

So my question is, do you agree with me that there actually seems to have been more consensus in the standard setting process over the past 8 years, and of the rules finalized in the last 8 years, what percentage of those rules has been established through consensus negotiations, if you could?

Ms. NOLL. Good morning. Um, yes, it is interesting because I think about the number of roles and the number of negotiations that have taken place over the years, and there are so many to choose from. The last two revisions to home air conditioning standards went through a consensus process and landed an unnegotiated consensus outcome. And that is fantastic for consumers and the value that it is going to deliver to them for the environment as well.

So I think from my perspective I would say that the controversy is the exception and not the rule, you know, that we can demonstrate I think, as I said in my opening remarks, of the 42 standards that have been finalized since 2009, almost a quarter of those stemmed from joint consensus negotiations. And that is not to say that every rule needs to or can come from a consensus or a negotiation and those that didn't went through the normal rulemaking process. And with the exception of maybe a few standards have been without controversy and supported by stakeholders through the process and input.

So I would just encourage us not to characterize action as controversy at this point.

Mr. PALLONE. All right. Now I am a strong supporter of energy efficiency programs, and again I am confused by some of the claims being made by members of today's panel.

I find it difficult to believe that there are no more significant energy efficiency gains to consumer products unless you assume that we can improve upon our current technology or develop entirely new technologies that are more energy efficient.

For example, TV went from tubes, to liquid crystal displays, to plasma, to LED in a little over a decade. So are we truly done with refrigerators, dishwashers air conditions, furnaces, whatever?

Ms. NOLL. Our experience has been no. I think in the latest refrigerator standard revision, this is the sixth time, including the State standards, that that had been revised. It represented about 20 to 30 percent improvement over the previous standard, and that is on par with other revisions, fully supported by manufacturers and stakeholders.

And I think we have seen that that trajectory has held true that refrigerators are now 75 percent more efficient, they have more

product features, they are 20 percent larger and they cost half as much.

I think the lighting revolution that we have seen take place is another example of—I don't think in 2000 we could have predicted the number of choices and the efficiency that we would get from LEDs today. So I think that it is just a few examples of where this could be headed.

Mr. PALLONE. All right. Several witnesses have referred to mandatory serial rulemakings. And my understanding of the law is that it mandates the review of the standard every 6 years. However, to my knowledge, the law doesn't require that the standard be updated every 6 years.

So just to clarify, would you answer yes or no to the following questions, OK? Does the law require a standard be reviewed every 6 years? Yes or no.

Ms. NOLL. Once it has gone through its statutory requirements, then yes, it is required to be reviewed every 6 years.

Mr. PALLONE. All right. Does the law mandate that a standard be updated every 6 years regardless of any other fact pattern?

Ms. NOLL. No.

Mr. PALLONE. Does the DOE have to determine whether a rulemaking is likely to result in significant savings before requiring a standard be updated?

Ms. NOLL. Yes.

Mr. SHIMKUS. And does DOE have to determine whether rulemaking is likely to be technologically feasible and cost effective before updating a standard?

Ms. NOLL. Yes.

Mr. PALLONE. OK, thanks a lot. Thank you, Mr. Chairman.

Mr. OLSON. The gentleman's time has expired the. The Chair uses the privilege of the vice chairman to recognize himself for 5 minutes.

And a hearty Texas welcome to Ms. Miller, Mr. McGuire, Ms. Noll, Mr. Cosgriff, Mr. Eckman, and Mr. Yurek. In the interest of time I have one question about air conditioning.

Southeast Texas, my home, exists in a climate we call 95, 95. From early April to late September, it is 95 degrees Fahrenheit with 95 percent humidity. Until 1902 the only jobs in that region were picking cotton and guarding prisoners in big State prisons, that provided very, very slow low growth. And then Willis Carrier invented the air conditioner in 1902. That single invention, combined with oil being discovered at Spindletop, in 1901 in Beaumont, and the 51 mile Houston ship channel being built, has put Houston on track to be the Nation's third largest city some time this decade.

Federal actions affecting air conditioning gets the attention of all Texans. Especially if two Federal agents are in conflict. We are seeing that situation now right now with air conditioners. DOE is demanding higher efficiency standards for air conditioners, while EPA is banning certain refrigerants and foam blowing agents from being used in air conditioners.

My only question is for you Mr. McGuire and you Mr. Yurek, Mr. Yurek first, can companies comply with these conflicting standards, can they comply with these, what are the challenges?

Mr. YUREK. First off, yes, they can comply with it, but how they comply with it is that it costs a considerable amount of money in the conflict between the two statutes going into effect in the needs to spend money on research and development. And then once that research and development is completed they need to then retool their plants. And so yes they can do it. It is going to cost. The big manufacturers that have the funds will have the ability to do it, it will be several of the small manufacturers that don't have the funds available that will go out of business either be acquired by the bigger ones or just leaving the area.

Mr. OLSON. The big guys thrive, the small guys go away. Mr. McGuire, you thoughts? Can they survive, can they work with these conflicting regulations from different departments?

Mr. MCGUIRE. The industry can comply, but the problem is it takes a certain amount of time to do that. And the EPA decisions, proposals on refrigerants is not being coordinated with DOE on the efficiency standards with the vast majority of greenhouse gas emission avoidance benefits come from the appliance standards not producing the changing the refrigerants.

We have to deal with the fact that the safety standards in the U.S. do not allow the type of refrigerants we have to go to yet in the amounts necessary. That requires a safety risk assessment test that companies are doing. So it takes an amount of time, sequence and investment for this to happen. And it would be prudent for the two agencies to talk about this and reach a decision that makes sense for the environment and for the people that are making these products.

Mr. OLSON. Follow-up question, sir, do you believe the Obama administration is meeting their own goals set with the executive orders to minimum the cumulative impact of these regulations? These burdensome regulations, they said let's make that lower. Does this achieve that or is this in violation of that?

Mr. MCGUIRE. We do not believe the DOE has done a proper analysis to the cumulative regulatory burden on manufacturers when they are doing their appliance efficiency standards, because they are not taking into account the costs in investments that are made for previous versions that haven't been recouped, as well as investments that have to be made in alternative refrigerants.

Mr. OLSON. Mr. Yurek, you thoughts, sir?

Mr. YUREK. I agree with Mr. McGuire in that that proper analysis has not been done. And the burden on manufacturers is not being considered, and actually has been ignored when raised in some of the rulemakings related to commercial refrigeration equipment where we did raise EPA changing the refrigerants that can be used at the same time efficiency regulations went into effect.

And DOE said, well, they haven't changed it yes so we are using the current refrigerant. They issued the rule, 6 months later the EPA banned those refrigerants. There are two different implementation dates, one is 2016 for refrigerants and 2017 for the energy efficiency standards. You have to redesign twice in two different periods of time.

Mr. OLSON. Thank you, my time is expired. One word of warning, don't mess with Texas air conditioners.

The Chair recognizes the gentleman from California, Mr. McNerney for 5 minutes.

Mr. MCNERNEY. I thank the assistant chair. Mr. Cosgriff, I believe that you stated that many of the imported products are not held to the same standards as American made products. Is that right?

Mr. COSGRIFF. I didn't say many. I said that we should be on guard to make sure that nonqualified products enter the stream of commerce inside the United States.

Mr. MCNERNEY. So that must be happening then.

Mr. COSGRIFF. I am sorry?

Mr. MCNERNEY. Is that happening are products entering the American——

Mr. COSGRIFF. We receive information from our manufacturers routinely that they find products in the stream that don't, by objective standards, meet the standards of the United States of America.

Mr. MCNERNEY. So U.S. consumers are buying products made overseas that are potentially less efficient and cost American jobs at the same time?

Mr. COSGRIFF. They might be, yes, sir.

Mr. MCNERNEY. How could we remedy that situation?

Mr. COSGRIFF. Well, NEMA in the past has worked with commerce in the area of counterfeiting to take our expertise from our member companies and make it available—Customs, excuse me, Customs and Border Security to make it available to their agents so they can though what they are looking for, to be able to identify what constitutes a valid third-party certification mark, what might be a counterfeit and other tells that you might see in products.

Mr. MCNERNEY. So this is an enforcement issue it is not a trade rules issue?

Mr. COSGRIFF. Mostly enforcement, yes sir.

Mr. MCNERNEY. OK, very good. Mr. Eckman, please elaborate a little bit if you would on how the rulemaking process could be improved, the transparency of the rulemaking process could be improved?

Mr. ECKMAN. I will go through a little bit of history so the context is there.

In the mid-2000s DOE staff directed their consulting staff to sit down with advocates and manufacturers to help negotiate a white good standard with the AHAM folks so the technical staff supporting DOE's rulemaking was appraised and involved in those negotiations that were informal at the time. They weren't authorized by DOE, we were handling those on the side.

And that led to another process on electrical transformers where both DOE staff and their consultants got involved. And finally DOE established under the Federal Administrative Procedures Act a negotiated rulemaking group called the ASRAC of Appliance Standards Rulemaking Advisory Committee, which now oversees a series of requests that might come in from parties that want to enter into negotiations through a regulatory process, through regulating negotiation as opposed to rulemaking through a standard comment process.

And that has opened I think the doors to more consensus agreement, to the agreement on major refrigeration products, the HVAC

equipment, pumps and electrical transformers all came from those kinds of negotiations, where there is a great deal more transparency interaction with the manufacturers, with advocates staff and consultants because they can get down and talk face to face, roll the sleeves up in a meeting not in a very formal hearings type process.

And I think that has improved both the outcomes and the feelings that come out of those outcomes about we agree that we can't get everything we need but the compromise works for all of us. And that process to me is really central to and advancing the rulemaking process.

Mr. MCNERNEY. Thank you. Mr. Cosgriff again, I am going to ask do you believe that the current standards are room to drive more innovation?

Mr. COSGRIFF. Do I believe the current standards have?

Mr. MCNERNEY. Can drive more innovation?

Mr. COSGRIFF. Can drive more innovation. I think the manufacturers are driving innovation. I think competition is driving innovation and I think standards have a part in that, but I wouldn't overstate what they are part is.

So if a product is at the low end of efficiency, then the standards are a welcomed boost. If a product like a transformer is approaching 99 percent efficiency, I am not sure what their accomplishing.

Mr. MCNERNEY. Thank you. Ms. Noll, could you give some examples of efficiency improvements that are still possible?

Ms. NOLL. Yes, I would be happy to. I think as we look at some of the products that are still—that will be revised in the next 8 years, there is standards for equipment and household appliances that have seen standards before, water heaters is a likely—a potential opportunity for increased savings.

As Mr. Cosgriff just mentioned distribution transformers, I mean they may be reaching a high level of efficiency but all of the electricity that is produced in America goes through transformers. So even half of a percent of improvements there will be a significant national benefit.

So I do think that there is opportunities that still exist to improve through the standards process.

Mr. MCNERNEY. Thank you, Mr. Chairman.

Mr. OLSON. The gentleman's time has expired the Chair recognizes the gentleman from Ohio, Mr. Latta, for 5 minutes.

Mr. LATTA. Well, thanks, Mr. Chairman. And I would also like to echo I think this is a great panel today and really appreciate you all being here. I am kind of an expert, my wife and I in the last 6 weeks just bought a washer and dryer, and the refrigerator is next.

But in northwest Ohio we do make HVAC, we make dishwashers, we make dryers, we make washing machines, we also make waffle irons, we make large mixers and we also have a large freezer plant right in northwest central Ohio. So we have a lot of things going on, and it is very important to our economy.

But, Mr. McGuire, if I could start with you: You have been particularly critical of the proposed standards for dishwashers. Can you explain what is wrong with the standard in terms of substance

of the proposed rule as well as the process by which it has come about?

Mr. MCGUIRE. Well the proposed dishwasher standard from last year, first of all, it required a 20-year payback to the consumer for a product with useful life was 13 years. It reduced the amount of water that a dishwasher uses in a cycle from five gallons to three. And the proposed rule did not go through any type of performance or consumer testing before it was issued, we did not get a chance to do that, we normally do in these rulemakings. So——

Mr. LATTA. Let me interrupt. Now why didn't you get to be part of that?

Mr. MCGUIRE. DOE just didn't do that part of the process. They just went right to the rule without that type of testing. So once it was proposed, we did the testing and we demonstrated to DOE and others that dishes were not clean. In multiple product manufacturers products, it did not clean the dishes. So the utility of the product was affected, the consumer payback was not there and the energy savings was minimal, less than a quad, 7 percent of one quad.

Now the current dishwasher standard that is in place today, that has a pay back to the consumer of 12 years, so that was already at the limit in terms of economic sense. There was no need for this fifth dishwasher standard. So it messed up the product and it did not make sense for the consumer to buy such a product, so our view is that there is something wrong when the process spits something out like that. That has to be a product or a category where you don't do another rulemaking unless some quantifiable measure can show that there is going to be a real significant savings in energy that won't harm the consumer.

But under the current process it is very difficult to get DOE's assumptions and other things that go into their analyses done by their contractors and the national labs. So that is part of the process change we would like to see.

Mr. LATTA. Now just out of curiosity, when you were doing this testing, when you were going from five gallons to three gallons, how much did that cost the industry? And what did that cost the consumer in the end run then?

Mr. MCGUIRE. Well, how much did it cost of the consumer for——

Mr. LATTA. So when you were doing the testing, when it was going from the five gallons down to the three gallons, you said, and I was just curious is there a cost to the industry that you had to do——

Mr. MCGUIRE. Oh, sure.

Mr. LATTA [continuing]. And then what was overall—I assume it would go back to the consumer?

Mr. MCGUIRE. Well these tests that we did on the proposed rule, this standard didn't go into effect. Those costs were absorbed by the companies. There is thousands of dollars to do these tests. Once a standard is in effect, in order to prove compliance with the standard, you have to test the product before it is submitted to the marketplace and then a regular routine testing market surveillance that our industry actually does some of that testing to police ourselves and provide some information to the Government.

Those tests are very expensive and the cost of compliance—the tolerances are very, very tight so manufacturers invest a lot to make sure their products meet the standards and the tests are sophisticated. So it is a costly part of being an appliance manufacturer. And those costs are going to the product like any other costs and are passed on to the consumer.

Mr. LATTA. Thank you.

Mr. Yurek, I am concerned about the economic effects that the administration's aggressive regulatory agenda has.

It is my understanding that DOE is implementing rules that set new standards for individual components and your members residential consumer products such as the new standard for the efficiency of furnace fans. How does regulating a specific component in a large heating or cooling system add to the cost of a furnace or air conditioning system?

Mr. YUREK. We have a lot of concern. I think looking at this 40-year-old law, that it is dealing with products, and in some instances it is going into the components of those products and pieces of equipment, which is the wrong direction. Really what we should be looking at is how these products are put into the house or into the building and looking at an overall systems approach to efficiency to really look at the gains. Because if you start dictating and regulating the components, be it the compressor, now they are looking at regulating the fans that go into the HVAC, air conditioning and furnaces, and others, you are dictating how these products are designed. And once they are put into that product, they might have—and we have shown in a case, in a proposal out with the California energy commission when they were doing this with the air handlers, what they were proposing on the efficiency level for fans, actually used more energy when applied in the air handler than being able to design the overall product and the energy use of that air handler.

And so we just want to make sure that this is done rationally and the current law doesn't give DOE that type of authority to look at the broader picture. And I think we just need to step back and say, it is 40 years old, let's look at it and make some changes and make it better so we can actually get some energy savings out in the field and have consumers be able to afford the equipment.

Mr. LATTA. Thank you very much, Mr. Chairman. My time has expired, I yield back.

Mr. OLSON. The gentleman's time has expired. The Chair recognizes the gentleman from Vermont Mr. Welch for 5 minutes.

Mr. WELCH. Thank you very much. This is a great panel, I appreciate it.

A couple of things, we don't have a bill yet, right? So this is kind of an abstract discussion. And I thought Mr. Shimkus kind of laid out the potential for cooperation here. I do like the notion of collaboration in the process, because you have got folks at DOE who are doing their best to implement efficiency standards, you have got real world folks that are the manufacturers that have to contend with the very practical issues of implementation.

Ms. Noll, you're OK with that, right?

Ms. NOLL. Yes——

Mr. WELCH. I think standards are incredibly important, but I don't think they are everything. Mr. Cosgriff, you mentioned that the standard in some cases especially at the low end does spur the innovation. But if you have got something that is highly efficient then it is not going to accomplish all that much. A lot of what you are saying sounds very reasonable to me.

The jobs issue, I think, is not so much the jobs issue, I mean air conditionings—by the way, one the most outrageous loss of jobs is with Carrier leaving Indiana to go down to 3-buck-an-hour wages in Mexico, which I think is pretty appalling but has nothing to go do with standards, particularly since whatever it is is manufactured at 3 bucks an hour has to meet the standards before it can come back into this country, right? So you know, you have a got to level the playing field, as long as the standards apply everywhere.

But I do as a strong, strong supporter of efficiency standards with Mr. McKinley, who has got a lot of experience in this, I feel that those of us who believe standards can work have to be extremely diligent in trying to address practical concerns as they come up. That makes sense to me.

So I have heard the industry folks saying you are not for unraveling them, you want them to be more practical. I am not asking a lot of questions because I don't think there is that much disagreement and we don't have a bill. But one of the things I think that would be helpful as part of this process would be to get the DOE folks in here and ask them what are some of perhaps the congressionally imposed burdens we are imposing on them where you are saying that they have so many rules they have to deal, they don't have the time and the space.

The bottom line here, collaboration I think is really good. I think standards are absolutely essential. I mean, the energy efficiency savings that we have had have been tremendous in—if they are done right it can save consumers money, it is not without impact. We all understand that. There was a cost associated with requiring that automobile manufacturers install seat belts, that cost more money when you bought a car. Most of us think, it is about time.

Mileage standards have been tremendous, that is a cost that has really had an impact on the average mileage in our fleet. So really what I am asking for is to take up Mr. Shimkus on his observation that this is an area where there is some opportunity for us to cooperate, but that means not letting it get adversarial. If there is acknowledgement even from the people who are affected by this in ways that they think are a little too aggressive, to have some interaction with DOE, and us to try to figure out what are the process improvements we can make in order to get the benefits of regulation.

I mean, I will just ask the industry people Mr. McGuire and Mr. Eckman or Mr. Yurek, is that a problem for you the approach I am taking about?

Mr. MCGUIRE. It is not a problem. We have used consensus many times in the past, but we think consensus ought to be to change the law so that the process requires these improvements and they are not discretionary.

Mr. WELCH. Well, that has to be a discussion—there is no specifics here, all right? So we don't have a bill in front of us.

Mr. MCGUIRE. There are some process improvements in the energy bill in conference, but the ones that we are talking about the major reforms you are right, there is not——

Mr. WELCH. Well, I tell you what would be helpful for me if each of you did a 1-page bullet point assessment of concrete things that you think in the process would improve it. Then we can assess it, have a discussion, we can talk to DOE, how does that work, would it improve it or not? What is the down side? We are just having this real abstract discussion here.

And regulations I think are really important, and it can be really beneficial, so if they are not done right can have a lot of downside to them with no upside.

Ms. Noll, how about you do you, what I am saying——

Ms. NOLL. I would be happy to do that. I would also encourage us to look at some of these where the process is working. And I think dishwashers is an example of that where DOE heard from industry and Congress granted them the authority to look at consumer utility and performance criteria for economic justification——

Mr. WELCH. That would be helpful.

Ms. NOLL. As an example of how it is working and how it is serving to protect consumers and also ensuring a balanced both—the impacts on manufacturers as well as the impacts on consumers and the environment and reducing our energy consumption.

Mr. WELCH. That makes sense. What about you, sir?

Mr. OLSON. The gentleman's time has expired. I am sorry, sir. We have to move on with votes coming up.

I recognize the gentleman from West Virginia, Mr. McKinley for 5 minutes.

Mr. MCKINLEY. Thank you, Mr. Chairman. And let me just build a little bit on some of the remarks that have been made earlier about credentials. Peter Welch and I have had a wonderful working relationship, we both chair the efficiency caucus, we put language into the current energy bill that we are waiting to see what is happen in the Senate. We have been to the White House for the energy efficiency bills. So this is something I think he and I grasp fairly well with this.

Back when I was in private practice in engineering we designed some of the first LEED certified schools and office buildings in West Virginia. I am working with Tonko over in energy efficiency with the turbines to create electricity to make that more efficient. So energy efficiency is one of the prime areas that I like to play with and can get involved in here.

But I get to a point, there are some vast differences and I want to play back on what my colleague and good friend Bobby Rush from Illinois was talking about, was the disparity of income when people were facing this, if you look at this, it poses a challenge for all of us. It really does for it.

If you look at Mississippi my colleague from Harper from Mississippi, their median family income $36,000 a year. In Mississippi. $36,000 a year, but in Maryland, it is over $70,000 per family income. So in those affluent States or neighborhoods, they make

choices, they have choices. You will probably if we went through the motor vehicle licensing we would find they probably have more BMWs and Lexus cars there then we have in some other areas of the country or in neighborhoods.

So cars are going to be different because people have choices. We have housing, different pricing for housing because people have choices for that. We have health care. When you go to the exchanges under ObamaCare there are different exchanges so people have choices. But when it comes to their major consumer appliance, they don't.

For your air conditioning, your refrigerator, your range, your dishwasher, your furnace all of these now have been mandated that this is the only one that they have available to them. I am troubled with that, because of the diversity of income, their capability of doing it, and don't tell me it is going to save my $500 a year, because we understand the pay back is so much longer on all of these.

So I am wondering is there a suggestion you all could make that might make it more palatable for people to be able to have a choice so that they are not confronted with this hard decision? I know of families that are trying to fix anything, their equipment—to make it last as long as possible, because they know that they can't afford the cost of the new one. And so they are spending a lot of money in repairs because they don't have a choice. They know what the cost is. That air conditioning costs the same in Connecticut as it does in Mississippi, or that dishwasher.

So what would you suggest that we in Congress could do to maybe ameliorate some of these differences a little bit so that the poorer communities or States that have trouble, how can they afford to have this cost? Can some of you—OK, Mr. Yurek.

Mr. YUREK. Congressman, I think this is a really important issue. And I think it is bringing back the balance that was originally put out in the 40-year-old law where it says, technically feasible and economically justified.

Right now the focus is too much on the technical feasibility in saying, hey, my manufacturers manufacture products everywhere from the Federal minimum to very high efficiency. Yes, we can go to the high efficiency but we need to look at the cost. And I think it is bringing that balance back to that economic justification in saying this law is intended to raise that floor slowly.

People that have the incomes in Maryland and other places are going to purchase the things with all the different bells and whistles on that you are refrigerators, their dishwashers, their air conditioners and everything else. But there are a lot of people in this country when you look at the cost now of the minimum-efficient air conditioner, you are looking at $6,000 to $10,000 at a minimum, that is done in an unplanned time, because most of the time these units go out when it is the hottest day of the year, or the furnace when it is coldest day of the year.

And the Federal Reserve just had a study last week that said over 47 percent of the American people have less than $400 in emergency cash available to them. So what are they going to do? They need that comfort. In the wintertime they need the heat. A lot of times for medical reasons they need the cooling in the sum-

mer. And so it is bringing back that balance. Probably putting more of an emphasis on the economic justification.

Mr. MCKINLEY. Thank you. My time expired, but I will ask can each of the six of you mind putting a paper together saying what would you suggest that might be a solution to help out for families in depressed areas?

Thank you very much, I yield back.

Mr. OLSON. The gentleman's time has expired. The Chair recognizes the gentleman from New York, Mr. Tonko, for 5 minutes.

Mr. TONKO. Thank you, Mr. Chairman. Thank you to our witnesses.

Certainly we are citing a 40-year history here. And again to repeat what my colleague from Vermont indicated, we have to look at some of the trade situations too. Where offshoring of jobs might have helped some families retain those jobs and be able to afford these items. And this job loss thing I think is much more complex than just suggesting standards caused it.

Our energy efficiency standards have improved products that benefit all of our constituents. Many of these are not luxury goods but necessities found in nearly every home. We have heard support for national efficiency standards from manufacturers and consumers and we have heard from industries from States from environmental groups that there is consensus that this program has been a success.

I am certainly open to improving the program, but improvements cannot undermine the purpose of this program. And while we look for those improvements, we should not lose sight of the fact that this program is incredibly successful. While there have been a few contentious rules, it is my understanding that of the final rules issued since 2009, almost one-quarter were the result of negotiating consensus agreements and only five have been subject to litigation.

So to our witnesses, do you agree many of these rules have been consensus driven?

Mr. YUREK. Mr. Chairman, yes. Most of them as Ms. Noll said, 25 percent of the rules in this administration have been through the consensus process. That means 75 percent of those 40 others have not. I think we all support and would encourage that negotiation consensus process because there is more of that give and take that Mr. Eckman talked about versus the notice in comment where you only have—the adversarial is much more adversarial versus a negotiation and I think that is something we should look at.

Mr. TONKO. OK. And I think it is worth noting that DOE has a history of working to improve the program especially around increasing stakeholder engagement dating back to the 1990s.

A few years ago DOE established as I understand the Appliance Standards Regulatory Advisory Committee which formalized the process for negotiated consensus rulemakings for the first time.

A number of our witnesses participate on this committee which includes again manufacturers, trade associations, States and consumer groups. Can anyone comment on this committee's work and what it is as a—what it might be as a positive step to formalize this process? Mr. Eckman.

Mr. ECKMAN. Yes. I think it has improved the process a lot particularly where there is a likelihood that both the manufacturers and efficiency advocates and the DOE agency personnel and consultants can come to a more flexible conclusion than would otherwise be provided.

I think it has allowed for lots of horse trading that wouldn't occur, as Mr. Yurek said, under the standard process, the rulemaking hearings process and file your report. So I think it has been a huge advantage. I have been a member since the committee was established. We have had multiple work groups, seven different work groups so far on negotiating standards. They work the best when both the parties that want to participate in that come before the committee and say, we think we can work this out, give us a chance.

If that is not possible or there is not really an issue, everybody thinks we can do this through rule and comment, that is a much more expedient processes it takes a lot of time and energy to do the negotiations as you are aware, but they turn out to be better rules as a consequence for everybody involved. And I think supporting that on a continuous basis, the ASRAC committee and process that has improved the process a lot.

Mr. TONKO. Does anyone else——

Ms. NOLL. I would just to note on the 75 percent that weren't consensus or joint negotiations does not mean that they weren't going through the normal rulemaking process to deliver superior outcome. And only five of those rules have been litigated and I think that is still a very small number on the grand scheme of things.

Mr. TONKO. OK. Thank you. Mr. Cosgriff?

Mr. COSGRIFF. Yes and to Mr. Yurek's point to follow it up a little bit, we are sitting around a table taking about technical things, you better have the technical chaps to have that conversation. And so in this highly quantified algorithm that ASRAC and DOE consultants use, I would like to see inside that. We have mathematicians, we can figure it out. I don't understand why we can't see what the key assumptions are and how those assumptions play inside the model that they are run through the computer.

So one of the things we learned over the last 4 years I think is that that incoming tide has raised all the boats. This is a good news story, so now let's perfect it so let's do it in as scientific way as possible and as transparently as possible.

Mr. TONKO. Thank you. Anyone else? McGuire?

Mr. MCGUIRE. Mr. Tonko I would say——

Mr. OLSON. I am sorry, the gentleman's time is expired. We have votes coming up, my friends so make it quick. I recognize the gentleman from Missouri, Mr. Long for 5 minutes.

Mr. LONG. Thank you, Mr. Chairman.

And Mr. McGuire could you recommend to me what type of hair dryer would be the best purchase for my dishwasher so I could dry my dishes whenever the cycle is through?

Mr. MCGUIRE. I will provide it for the record.

Mr. LONG. My dishes are not feeling the burn as they once did.

Mr. Cosgriff, in some of the testimony given today, the issue of the Department of Energy coordinating better with other agency

was mentioned as an area for improvement, particularly in the area of making sure that imported products containing regulated components are held at the same standards as the domestically manufactured products are on their own. What are your thoughts on how we can ensure a level playing field for U.S. made components?

Mr. COSGRIFF. There would be a number of things. I think clearly it may not be DOE's responsibility, but it would be their responsibility to make sure that their fellow travelers principally, Customs and similar policing function are aware of what the standards are, what to be looking for.

Mr. LONG. Can you pull your mike a little closer?

Mr. COSGRIFF. I think industry has a role in that too. We should step up offer our technical expertise. There is other distributors would have a role in that, systems manufacturers will have a role in that. So it is not going to be one easy solution, but we don't want the products in the stream or in the system.

Mr. LONG. Well the energy conservation standards program required the Department of Energy to start a new rulemaking procedure on a product as part of 6-year review cycle. Can you tell me generally how long it takes to fully comply with the energy conservation standards for a product factoring in all of the cumulative rules, including test procedures?

Mr. COSGRIFF. Three years sticks in my mind, I think it would be different for different products, I mentioned lighting happens a little bit faster. If we are meeting a motor efficiency standard, that is a little more complex machine. So I think it is different.

But assuming we have 3 years to get into compliance and then that gives you 3 years of run time before the next rulemaking kicks off and DOE tends to as you would expect, and as they should, start that rulemaking early so they are able to comply with the law when they get to 6 years.

I would also point out in the covered products for NEMA, we know of only two times where the Department has chosen for the cost-benefit analysis to forego the rule.

Mr. LONG. What are some of the challenges in complying with both the energy conservation standards and additional test procedures?

Mr. YUREK. Congressman, that is one of the interesting things that—the change when we made the serial rule part of the I think the 2005 amendments to EPCA, you have to review the standards every 6 years. And the requirement is review the test procedures every 7. And what we are starting to see in light of lot of our products, the test procedures aren't complete for the products that they are setting standards for.

So as a matter of fairness don't even know what the test procedures can be and how our products will be measured. The information isn't there. And they are setting efficiency standards in minimum levels. And so, I think, the interrelationship is very important and we need to know what the rules are, be able to evaluate what those rules are through testing our products and providing that information to DOE before they start setting the next standard.

And the same thing in the previous question Mr. Cosgriff, our products it is a 5-year implementation time from the standard being set and when it becomes effective. And it takes that entire time to do it. And so what we are seeing is that even before in some cases the standards are put into effect, we are seeing the next round, and we saw that with residential air conditioners. The standard went into effect January 2015. The fall of 2014 they already started discussing the next round of efficiency. So you are looking at increasing the efficiency standards on the equipment before the prior standard went into effect.

Mr. LONG. Welcome to Washington, DC. Mr. Cosgriff, do you care to comment on that as to what the challenges are?

Mr. COSGRIFF. It pretty much is, as Mr. Yurek said, it is going to take us some additional time depending upon the product.

Mr. LONG. Thank you. Mr. Chairman, I yield back.

Mr. OLSON. The gentleman yields back. The Chair recognizes the gentleman from North Carolina, Mr. Hudson for 5 minutes.

Mr. HUDSON. Thank you, Mr. Chairman and thank the panel for being here today, a very informative discussion.

Mr. McGuire, which of your appliances have been regulated multiple times? I mean, do you believe we are reaching a point of diminishing marginal returns with this serial rulemaking?

Mr. MCGUIRE. Virtually all of our products have been regulated multiple times. The current refrigerator standard that has been in effect since last year is the fourth version of that standard, same for dishwashers. And the rule I mentioned proposed was the fifth revision.

So we believe we hit the point of diminishing returns in the last tranche of standards that were negotiated through the consensus process. We think standards going forward for most our products not justified on the economics or the energy savings.

Mr. HUDSON. I appreciate that. Mr. Long asked one of the other panelists about the issue of having the DOE propose new standards for some products while the underlying test procedures are also changing, would you like to elaborate on how this is a problem for you?

Mr. MCGUIRE. It is a major issue because a manufacturer cannot tell what they have to do to comply with the new standard until they know how to test to it. So that is why the law said test procedures come first, but that process is a little out of whack right now.

So we, in the case of portable air conditioners, we have had to comment on proposed standard before we knew what the final test procedure was. That is really impossible to do but that has what we are forced to do under the current process that is being employed.

Mr. HUDSON. Well that seems like it is not serving the best interest of the people either if we aren't getting the true assessment of the as a result of these tests. I obviously see why that is a mistake.

Many of your manufacturers made several regulated products and face multiple rules. What is the challenge, maybe you can elaborate a little more it for your member companies in terms of complying with all these different requirements simultaneously, just in addition to the testing things we talked about but just elaborate on that?

Mr. MCGUIRE. The initial investment to gear up for a new standard is as Mr. Yurek and Cosgriff said, is quite an investment to understand the test procedure and get your products qualified. But ongoing, once a standard is in effect, a manufacturer has to test and certify those products with the Department of Energy. If you want your products to be Energy Star qualified, that requires a further up front test as well as ongoing testing of a certain percentage of your products.

So that is a pretty significant testing burden for the manufacturers. And when the test procedures are under revision, it has to be very precise in order for you to design a product. What we have experienced also is that Energy Star sometimes will want a different test procedure than DOE requires for the standards.

One of the benefits we found of negotiating the consensus process, is we would peg the Energy Star requirement to the standard requirement with the same test procedures so manufacturers can plan that out. But that hasn't always been the case, so these are processes that used to be employed, but haven't been across the board in recent years.

Mr. HUDSON. Thank you. Industry groups have repeatedly asked DOE to establish separate product categories for condensing and noncondensing covered products only to have DOE provide response that condensing and noncondensing equipment provide the same utility to consumers so there is no justification for establishing separate product categories. Is this another area that warrants an objective third-party review?

Mr. YUREK. Congressman, what you are talking about is the famous furnace rule. And there again is related to technology.

This equipment is at a point where you have condensing and noncondensing and there is cost differences is considerable between the two technologies. Right now we are at the highest level of noncondensing efficiency and the rulemaking is looking at making a condensing requirement.

I think the groups—this would have been a rule that would have been great for negotiation, because we have seen over the years every rule that is come out has landed in litigation, and to see the groups come together and reach a solution would be a better solution.

But right now we are in the midst of notice and comment, and I believe DOE has just issued their proposed rule to OMB for review, so we will see what happens there. But having two separate product classes for condensing and noncondensing does not look like it will be something that will be put forward.

Mr. HUDSON. I appreciate that.

And Mr. Chairman, it looks like my time is about expired, so I will yield back.

Mr. OLSON. The gentleman yields back. The Chair recognizes the gentleman from Ohio, Mr. Johnson, for 5 minutes.

Mr. JOHNSON. Thank you, Mr. Chairman, and I, too, want to thank the panel for joining us today. Thank you all. I know this is—you have been here awhile already.

For Mr. McGuire, Mr. Cosgriff, and Mr. Yurek, how important is early stakeholder input in the rulemaking process? I mean, what are the additional challenges that you face when DOE issues a no-

tice of proposed rulemaking without having consulted with you beforehand?

Mr. McGuire, let's start with you.

Mr. MCGUIRE. I think it is very important from an effectiveness point of view. If the manufacturer hasn't had the ability to be in a dialogue with the Government about the proposal and how they except the efficiency requirements to be achieved, and do some testing, then you are really dealing in a vacuum.

This is what happened with the proposed dishwasher rule. So it is very important. These are technical matters. It is very important that not only manufacturers are engaged early but all stakeholders. This ASRAC process does do that, but the ASRAC process is useful once the decision has been made that there will be a new standard.

And so what we are talking about is changing the process for determining whether there should be a new standard. If there is going to be one, consensus is always the best. We feel we will do better. I think as the advocates feel, giving a give-and-take, putting the data on the table, and not wondering where the data came from.

Mr. JOHNSON. Before we go any further, I really want you guys to get the dishwasher rule right. I am the dishwasher at my house, and if the dishwashers don't clean, I have got a real problem. So I mean, it is going to be double work for me, so Mr. Cosgriff, go ahead.

Mr. COSGRIFF. I certainly agree with what my colleague says, and I think what I have heard is—listening to this conversation is, at least by the manufacturers, this is not an assault on the standards. This is—we want the energy-efficient economy to thrive. It is good for business, as Elizabeth Noll pointed out. That said, it can be more transparent.

The Department of Energy has some true experts in their field, but so do we, and it should be, as was stated, let's put the numbers on the table, and then let's bring in the business people and say, OK, the cost of efficiency improvement goes like that or goes like that, but the efficiency curve is almost flat. At some point, we got to call it off.

Mr. JOHNSON. Got you. Thank you. Mr. Yurek.

Mr. YUREK. I think it is very important because industry has the information that this rule is going to be based on it. It has information on what technology is available. It has information on the costs. It has information on the products that are being sold in there today, you know, both on the different efficiency levels. And so if that conversation doesn't occur, what is the regulator looking at to make its decision on is there significant energy savings? Can there be energy savings? And should we move forward with the rule?

And so it is very necessary for that dialogue. And I think DOE would like to have that dialogue, but again, they are tied by what you as Congress has put in this act in the serial rulemakings where you are mandating these rules every 6 years, and they just don't have the time, you know, to do a lot of times everything they need to do or like to do to get these rules out and also meet the

court order from the 2nd Circuit to make sure they meet all their deadlines.

Mr. JOHNSON. OK. Let's continue with you, Mr. Yurek. The DOE has proposed new standards for some of your products while the underlying test procedure is also changing. Why is this a problem for you?

Mr. YUREK. Congressman, it is a huge problem, as I stated earlier, in that we need to know what the rules are, how all our products can be measured. And again, it is getting DOE the right information. If the test procedures aren't set, how do they know how products are performing out in the field?

Mr. JOHNSON. Is it safe to say it is pretty dadgum hard to innovate when you don't know what—how you are going to be measured at the end of the—end of this?

Mr. YUREK. You don't know what the target is. You don't know what you are going to be measured on.

Mr. JOHNSON. You don't know where you are going, any road to get you there?

Mr. YUREK. Right.

Mr. JOHNSON. OK. Mr. Chairman, I am going to yield back 45 seconds.

Mr. OLSON. We thank the gentleman from Ohio.

The Chair recognizes the gentleman from Oklahoma, Mr. Mullin for 5 minutes.

Mr. MULLIN. Thank you, sir, and thank you for having this meeting. You know, I will be honest with you, there is a few meetings that we have in here that I have to really study hard on because I am not familiar with it. This is, as I would say, in my wheelhouse.

I understand this situation extremely well. And Ms. Noll, I am going to kind of just talk to you for probably the remainder of the time Because of a couple of things that you said, and I just kind of want to set the record straight. One, you said huge savings of these energy efficiency standards that DOE has put out, has put huge savings. That was your words, right? Based on what?

Ms. NOLL. Based on analysis.

Mr. MULLIN. What analysis?

Ms. NOLL. The analysis that ACEEE and Appliance Standards Awareness Project has done, as well as the Department of Energy's own analysis.

Mr. MULLIN. And I mean, are you really looking at bills and prices, because you said huge savings, and then you said up to $500 a year on energy costs. Is that correct?

Ms. NOLL. Correct

Mr. MULLIN. So in Oklahoma, the average household today, their total energy bill a year is $1,296. So you are saying that because of your savings, you know, that bill would have been $1,796. Is that right?

Ms. NOLL. Absent standards.

Mr. MULLIN. Yes. But yet if I go back and I look at 2008, the midline—just the midline Whirlpool dishwasher, the average use was about $29 a year is what that unit cost to run. At the same time, the cost of the unit was $375. Today, the same unit is $399, and it costs $32 a month to—or a year to run.

Ms. NOLL. The standards program has been in effect since 1987, and recently——

Mr. MULLIN. I am just talking about—you said huge savings.

Ms. NOLL. Uh-huh.

Mr. MULLIN. So I am trying to figure out where the huge savings are from because right now, we are just talking about dishwashers. Well, dishwashers, we can see in the last 8 years, have actually went up. They cost more. So that is not a savings. And they cost more to run per year. So just give me an opportunity again, where is huge? If huge would be massive. I mean, I am thinking like big time, that is huge, your word. $500, I guess you could say that is huge, but I don't see it. That is the dishwasher. So I will give you the mic and let you go ahead and try to explain that for me.

Ms. NOLL. In my opinion, I think $2 trillion in savings to consumers is a lot of huge savings.

Mr. MULLIN. No, you say $2 trillion. I am just trying to figure out where the $2 trillion are. DOE comes in here and makes all these outlandish claims all the time, how much they are saving, you know, the mid-level households and all this stuff, and how much energy is down when energy cost is actually up, and then you are in here making claims that the household is saving money, and I am just not seeing it.

If anybody on the panel can help me, let me know because I don't want to make a claim that is not true, and right now I am seeing a claim that is not true. Go ahead, Ms. Miller.

Ms. MILLER. I think it is a valid question to say what is this analysis based on, and I think to reiterate some of the other remarks made by other members of this panel, it is difficult to see where those claims come from in DOE's analysis.

Mr. MULLIN. Right.

Ms. MILLER. And if you are looking at dishwashers specifically, if you look at the standards that were finalized in 2012, they assumed, as you mentioned before, Mr. McGuire, that the payback period would be about 12 years, which is only as long as your dishwasher is going to last, and I think they assume that households would save on net $3.

Mr. MULLIN. Let me read you a manual for a startup, for a new dishwasher now. On top of it costing more to run, quote, this is out of the manual, says: "Run hot water at sink nearest your dishwasher until water is hot. Turn off water. For best dishwasher results, water should be 120 degrees before it enters the dishwasher."

This is a new standards that we have to have out. So not only does it cost more to run, Ms. Noll, now we are having—we are wasting water, which this is a big issue nowadays. We always talk about water savings, especially let's go to California. Let's talk about California for a second. They are supposed to run—waste hot water and let it run, and this is the manual that comes for dishwashers now that says that.

Refrigerators, let me use refrigerators real quick. Refrigerators in 2008, average Whirlpool refrigerator costs $999. That same unit comparable today is $1,299. Energy cost? Also up. Now, these are two major appliances. We are talking about a refrigerator. We are talking about a dishwasher.

Where are the huge savings? DOE and the argument on all these energy-efficient appliances are always out there talking about huge savings, and American people think it is huge, and yet I gave you two examples of two——

Mr. RUSH. Time, Mr. Chairman.

Mr. MULLIN [continuing]. That it is——

Mr. OLSON. The gentleman's time is expired.

Mr. MULLIN. I yield back

Mr. OLSON. Thank you. Seeing no further witnesses seeking time, the Chair asks unanimous consent to enter for the record a multitude of statements on this subject matter from a number of agencies and concerned citizens.

Without objection, so ordered.

[The information appears at the conclusion of the hearing.]

In closing, the Chair wants to thank all the witnesses for your time and expertise and your insights as to how to use hair blow dryers to dry dishes in the dishwasher.

The Chair reminds the members you have 5 legislative days to submit questions for the record and statements, EORs, statements for the record. Without objection, this hearing is adjourned.

[Whereupon, at 11:43 a.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

NMHC NATIONAL MULTIFAMILY HOUSING COUNCIL

NAA NATIONAL APARTMENT ASSOCIATION

NLHA NATIONAL LEASED HOUSING ASSOCIATION

June 10, 2016

The Honorable Ed Whitfield
Chairman
Subcommittee on Energy and Power
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Bobby Rush
Ranking Member
Subcommittee on Energy and Power
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Re: Hearing on Home Appliance Energy Efficiency Standards

Dear Chairman Whitfield and Ranking Member Rush:

On behalf of apartment property owners and the 38 million of people who reside in apartment homes, the National Multifamily Housing Council, National Apartment Association and National Leased Housing Association appreciate the opportunity to submit testimony for the record on appliance energy efficiency standard setting from the stakeholder perspective.

The apartment industry welcomes advances in energy efficiency technology. Property owners have embraced advances in technologies across the spectrum from lighting to programmable thermostats that have proven to be both cost-effective and efficient as well as improve the comfort and convenience of apartment residents. The wide availability and choice among Energy Star rated appliances have enabled property owners to routinely include these appliances in newly constructed and renovated apartment homes.

While the apartment industry has embraced efficiency and value the safety, comfort and convenience of our residents, we are concerned that in establishing new efficiency standards, basic matters of technical-feasibility and cost-effectiveness may be overlooked or subordinate to a goal of highest efficiency. As an example, attached are the comments we submitted last year on a Department of Energy gas furnace efficiency rule. While the one-size-fits-all rule failed to consider the climate zone technology, our chief concern was that this rule would stymie furnace replacement. The venting requirements of the new condensing furnaces would require horizontal rather than vertical venting and these vent penetrations would need to be several feet away from any window or door. In existing multifamily properties, building configurations make it virtually impossible to comply with these requirements. The Department has failed to date to provide a cost-effective, technically-feasible regulatory option for gas furnaces where it is not possible, let alone cost-effective, to install a highly efficient condensing furnace. Consequently, property owners will need to patch older furnaces rather than replace them with newer, more efficient models. This is a case of the good being the enemy of the best! Efficient furnaces that could be used to replace older or improperly running furnaces will no longer be available on the market when the rule to shift to high efficiency condensing furnaces takes effect. This rule will have a serious impact on the comfort of our residents, force us to extend the useful lifetimes of old equipment and dramatically impact housing affordability.

We appreciate the opportunity to work with the Subcommittee as they consider this matter. For additional information, please contact Eileen Lee at elee@nmhc.org or (202) 974-2326.

Sincerely,

[redacted]

Cindy V. Chetti
Senior Vice President of Government Affairs
National Multifamily Housing Council

Gregory S. Brown
Senior Vice President of Government Affairs
National Apartment Association

Denise Muha
Executive Director
National Leased Housing Association

cc: Members of the House Subcommittee on Energy and Power

Enclosure

July 10, 2015

The Honorable David T. Danielson
Assistant Secretary
Energy Efficiency and Renewable Energy
US Department of Energy

RE: NOPR for Energy Conservation Standards for Residential Furnaces; EERE-2014-BT-STD-0031

The National Multifamily Housing Council (NMHC), the National Apartment Association (NAA), and the National Leased Housing Association (NLHA) appreciate the opportunity to submit comments on the proposed rule regarding Energy Conservation Standards for Residential Furnaces ("the Proposed Rule"). Our members are strongly committed to energy efficiency and have led the way in the construction of green buildings that have been certified under the National Green Building Standard (ICC-700), the Green Building Council's Leadership in Energy and Environmental Design (LEED) and the Environmental Protection Agency's Energy Star program, among other designations. Energy and water efficient appliances and fixtures are important to consumers and our apartment homes reflect consumer preferences for performance and environmental sustainability.

The combined memberships of NMHC, NAA and NLHA represent firms engaged in all aspects of conventional and affordable rental housing, including owners, operators, developers, housing agencies and nonprofits.[1] The Apartment industry provides homes for 17.9 million households (in buildings with 5+ units). Half of all apartment households in the U.S. in 2013 were housing-burdened (spending more than 30% of their income for housing), a result of rising rents, but also a result of stagnant incomes for many years (U.S. Department of Housing and Urban Development, American Housing Survey). On an inflation-adjusted basis, household incomes have remained the same since the 1980s, leaving property owners with the dilemma that their residents are not earning more money, but aging apartment units require higher operating costs every year (U.S. Census Bureau, Current Population Survey, and Annual Social & Economic Supplement). As a result, unplanned retrofits would likely require property owners to raise their rents, further hindering the supply of affordable housing.

[1] For more than 20 years, the National Multifamily Housing Council (NMHC) and the National Apartment Association (NAA) have partnered in a joint legislative program to provide a single voice for America's apartment industry. Our combined memberships are engaged in all aspects of the apartment industry, including ownership, development, management and finance. NMHC represents the principal officers of the apartment industry's largest and most prominent firms. As a federation of more than 170 state and local affiliates, NAA is comprised of over 67,000 members representing more than 7.6 million apartment homes throughout the United States and Canada. The National Leased Housing Association (NLHA) represents the interests of 550 member organizations involved in federally assisted rental housing including developers, owners, lenders, housing agencies and nonprofits. NLHA's members provide affordable housing for over three million families.

NMHC/NAA Joint Legislative Program

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The costs of both housing and utility bills are of paramount concern for apartment owners and their residents. We have serious concerns about the impact that the proposed rule to raise the minimum energy-efficiency standard for non-weatherized gas furnaces would have on our communities. This disproportionate regulatory burden will be especially acute for older, affordable properties when the time comes to replace older furnaces.

The Proposed Rule would require non-weatherized gas furnaces to have a 92% annual fuel use efficiency (AFUE) by 2021. While high efficiency furnaces are already on the market; these units present certain well-documented challenges for the apartment retrofit market. According to data compiled by manufacturers and installers, over 55% of the gas furnace market in northern climates has already shifted to furnaces with 90% AFUE; existing apartment properties comprise 20% of the share of the market that has not yet made the switch. In new construction, the installation issues associated with side-vented, condensing furnaces are able to be addressed in the design phase however, in older properties the limitations of the existing structure render the switch to condensing units impractical if not impossible.

We have been following the efforts of industry and advocacy groups to come together on a solution that achieves our mutual aim of improved energy efficiency. We recognize that this is a highly technical undertaking involving numerous sophisticated computer-modeling analyses to determine a comprehensive view of furnace system operation within a building unit. While the furnace rule has focused on the aspect of burner performance, the working group has been looking at how related factors including fan efficiency and advanced thermostats might improve the overall energy efficiency associated with the furnace use. Despite the best efforts of all concerned, it appears there will not be a final work product to submit to DOE before the close of the comment period.

NMHC, NAA and NLHA concur with comments submitted on the Proposed Rule by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) and the Air Conditioning Contractors of America (ACCA) -- organizations whose members provide the goods and services the housing industry relies upon. In addition, as the owners and managers of multifamily properties that would be directly impacted the Proposed Rule, we highlight the additional serious concerns below:

Lack of regional approach

As originally proposed, the direct final rule reflected a regional approach to equipment energy performance. Based on the profile of heating and cooling days, DOE originally proposed to require furnaces of 90% AFUE in states with heating degree days of 5,000 or more where the cost of the more expensive units could be offset more quickly by fuel cost savings. In fact, market data has shown that in the northern region, fully 55% of sales of furnaces are for 90% AFUE models and 50% of all sales nationally. In warmer areas of the country (south and southwest with fewer than 5,000 heating degree days), furnaces are used less frequently and the utility cost savings was not as significant a factor. The cost differential between the 80% and 90% AFUE units is approximately $1000 per unit, not including associated installation expenses.

DOE wisely considered the cost issue in the original rule published in 2011 but failed to do so in the current iteration of the rule which is requiring a national standard of 92%

AFUE. Since the direct final rule was originally published, the costs of natural gas have been significantly reduced making the economic case for a regional standard even stronger and calling into question any economic justification for the proposed national standard of 92% AFUE. A regional efficiency standard is currently in place for air conditioner equipment and we believe that the same practical approach should be used to guide standards for furnaces.

Failure to consider retrofit market

Furnaces with AFUE of 90% or more are required to be horizontally vented as opposed to the vertical venting associated with non-condensing units. While this feature can be practically accommodated in new construction, this is not the case for existing apartment units where unit configuration makes it impractical to impossible to accommodate horizontal venting.

Highly efficient 80% AFUE furnaces with 2-stage burners have been available for several years and provide a fuel efficient, cost effective retrofit solution, as they do not require structural alterations. These furnaces provide superior thermal comfort levels for residents and are less expensive to operate even in colder climates according to one firm who undertook an energy efficiency upgrade involving replacement of a 75,000 BTU furnace and building envelope sealing in a New Jersey apartment community. The installed cost of the 2-stage, 45,000/25,000 BTU furnace (80% AFUE) was approximately $2000 and resulted in a 40% savings in utility costs.

An estimate obtained this week pegged the cost of retrofitting this property with a 60,000 BTU Heat 94% SEER Horizontal gas furnace at $7,300, exclusive of the carpentry and painting that would be needed due to the new ductwork. This estimate is significantly more expensive than the cost estimates that DOE has projected for the rule. This property was able to accommodate the requirement that the vent pipe be located 4' from a window or door; a more typical mid-rise apartment building would likely not be able to meet this requirement without major alterations to the building facade.

Specific challenges associated with retrofitting an existing apartment unit to accommodate new furnaces include:

1. Location of the utility closet. Whether the furnace is located in the middle of an apartment unit or is adjacent to an exterior wall, horizontal venting will require the installation of new ductwork. The location of the unit will dictate how extensive the new ductwork must be to reach an exterior wall. Building construction will determine whether the vent pipe can be recessed or must be included in a soffit. In addition, manufacturers' requirements and various local ordinances determine how far the furnace vent must be located from air intake sources including doors and windows, building corners and gas meter vents. This presents additional challenges for multifamily properties that are densely constructed by design and where there are few open areas on the exterior of the building to accommodate furnace vents.

2. Cascading Equipment Replacement. In many multifamily properties, furnaces and gas hot water heaters from several units may share a chimney vent or a furnace and a hot water heater within one apartment will share a venting system

with a gas furnace. If a new condensing gas furnace cannot be accommodated in an apartment due to building construction limitations, then it is likely the unit will be replaced with an electric unit. Venting systems are designed to work with a certain volume of gases; changes in the volume of gas being vented will affect the draw of the venting system, and could result in toxic-combustion gases being drawn back into the building. In short, eliminating a non-condensing furnace from a venting stack may initiate a cascade of equipment replacements due to venting requirements. It is foreseeable that local building inspectors will have concerns about the adequacies of the draw of a vent when it is carrying a reduced volume of gases.

3. Cost Prohibitive Alternatives. A suggested possible work around for the horizontal venting issue in cases where a gas furnace and gas hot water heater share a common venting system involves replacing both pieces of equipment while maintaining the vertical vent. Replacing the gas hot water heater with a high efficiency water heater and running the 3" vent from the water heater into a 4" vent pipe from the condensing furnace would enable venting through the existing roof vent. This "solution" is so costly (estimated to be $9,300 per apartment on one property) as to be impractical in most situations.

Impact on housing affordability

Increased costs of building maintenance and operation directly impact rental rates and will exacerbate the shortage of quality, affordable housing. For properties that will be forced to replace gas furnaces with electric furnaces, there will likely be an increase cost for consumers given the current price of gas relative to electricity. Properties that will be forced as a practical matter to replace functioning hot water heaters in order to accommodate the installation requirements of a new furnace will face even greater expense.

Impact on Greenhouse Gas Emissions

While the rule is pegged to improving the operating efficiency of certain gas furnaces, the Proposed Rule fails to fully account for other, unintended consequences of consumers shifting from gas to electric furnaces. Many existing apartment properties unable to accommodate the installation requirements for new condensing gas furnaces will be forced to switch to electric furnaces resulting in higher utility bills for property owners and their residents. This fuel shift will lead to an overall increase in green house gas emissions and would appear to be at odds with the Administration's goals set forth in the 2013 Climate Action Plan.

Summary

NMHC, NAA and NLHA believe that the proposed rule fails to consider furnace performance in the context of housing affordability. We urge DOE to reconsider the 92% AFUE national standard. Single-burner efficiency should not be the sole determinant for establishing an energy efficiency standard especially when it would exert serious economic disruption in existing rental housing communities where condensing furnaces are incompatible with the existing building structure. We request that the Department:

1. Retain the 80 AFUE minimum for non-weatherized gas furnaces with a heating input capacity of 80,000 BTUh or less. Because of the venting requirements, retrofitting a condensing furnace in place of a non-condensing furnace is often impractical or impossible. This solution will avoid the increased cost on the smaller units that consume less energy annually and are less likely to provide a payback to the consumer. Or,

2. Create a regional approach to furnace efficiency along the same lines as the current regional air conditioning standard. In addition, it will be necessary to provide a northern region condensing furnace exemption for existing buildings or the ability to have a waiver for especially difficult retrofits. Such an approach properly apportions efficiency requirements and initial product cost with operating expenses as well as provide relief for some or all of the more expensive retrofits.

Thank you again for the opportunity to share our concerns.

Sincerely,

[redacted]

Cindy V. Chetti
Senior Vice President of Government Affairs
National Multifamily Housing Council

Gregory Brown
Vice President of Government Affairs
National Apartment Association

Denise Muha
Executive Director
National Leased Housing Association

PHILIPS

June 10, 2016

VIA ELECTRONIC MAIL

The Honorable Ed Whitfield
Chairman
Subcommittee on Energy and Power
House Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Bobby Rush
Ranking Member
Subcommittee on Energy and Power
House Committee on Energy and Commerce
2322A Rayburn House Office Building
Washington, DC 20515

RE: House Energy and Commerce Subcommittee on Energy and Power Hearing: "Home Appliance Energy Efficiency Standards Under the Department of Energy – Stakeholder Perspectives"

Dear Chairman Whitfield and Ranking Member Rush:

Thank you for holding the June 10, 2016, hearing on the Department of Energy's (DOE) energy efficiency standards for home appliances. We appreciate the Committee's attention to this important matter.

Philips Lighting is a global leader in lighting products, systems and services. Our understanding of how lighting positively affects people coupled with our deep technological know-how enable us to deliver digital lighting innovations that unlock new business value, deliver rich user experiences and help to improve lives. Serving professional and consumer markets, we sell more energy efficient LED lighting than any other company. We lead the industry in connected lighting systems and services, leveraging the Internet of Things to take light beyond illumination and transform homes, buildings and urban spaces. In 2015, we had global sales of over 8 billion USD and currently we have approximately 36,000 employees in over 70 countries. Our North American headquarters is located in Somerset, New Jersey.

As you are aware, DOE's appliance efficiency standards were born out of the Energy Policy and Conservation Act (EPCA), which was signed into law in 1975. Originally, DOE was to prescribe energy efficiency standards for 13 product classes. Over the years, the list of covered products has grown more than four-fold and now covers almost 60 products. Further, many of these products have been subject to two (or more) energy efficiency standards. While the Department's appliance standards have resulted in increased energy efficiency levels for covered products, each round of updated standards produces diminished returns for consumers and manufacturers--each updated standard results in smaller improvements in energy efficiency and comes at a much greater cost for product manufacturers.

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While Philips Lighting fully supports the objectives of the EPCA and DOE with respect to increased energy efficiency, we believe it is time to improve the EPCA appliance standard regime. The EPCA framework, developed decades ago, is ill-suited for fast-paced advances in modern technology and the reality of an increasingly efficiency-driven consumer market.

The EPCA, for example, requires DOE to review and update, if it deems warranted, energy efficiency standards for covered product classes at least every six years. Although standard updates are not required every six years (i.e., the Secretary may determine that a standard need not be amended), DOE faces pressure from several stakeholder groups to *act* every six years. While this timeframe for repeated rulemakings/updates may seem logical on paper, mature technologies – including many in the lighting industry – are unable to produce sustained energy efficiency increases without undue costs for marginal upgrades in efficiency. In addition, the six-year timeframe does not grant DOE sufficient time to evaluate the overall effectiveness of its latest efficiency standard before beginning the next rulemaking process. Repeated rulemakings also divert manufacturing engineering resources from accelerating the introduction of new technologies that are often more energy efficient that the technologies in an updated rulemaking.

The EPCA also restricts the Department's ability to make commonsense, consensus-driven changes to energy efficiency standards, test procedures, and product class definitions without Congressional action. This leads to an overly-rigid regulatory structure that is unresponsive to changes in products (including the development of brand new products) and consumer/market demands. Ultimately, these challenges lead to higher costs for product manufacturers and higher prices for American consumers.

In sum, the EPCA structure has shortcomings that can and should be addressed by Congress. Common-sense reforms could reduce costs for manufacturers and consumers without jeopardizing gains in energy efficiency.

Again, Philips Lighting appreciates this Committee's attention to these important issues, and we look forward to working with you as reform measures develop and progress.

Sincerely,

Dr. David Woodward
Standards and Regulations Manager Americas
Philips Lighting

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June 10, 2016

VIA ELECTRONIC MAIL

The Honorable Ed Whitfield
Chairman
Subcommittee on Energy and Power
House Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Bobby Rush
Ranking Member
Subcommittee on Energy and Power
House Committee on Energy and Commerce
2322A Rayburn House Office Building
Washington, DC 20515

RE: House Energy and Commerce Subcommittee on Energy and Power Hearing: "Home Appliance Energy Efficiency Standards Under the Department of Energy – Stakeholder Perspectives"

Dear Chairman Whitfield and Ranking Member Rush:

Thank you for scheduling this hearing on the Department of Energy's (DOE) energy efficiency standards for home appliances. We appreciate the Committee's attention to this important matter.

Acuity Brands, Inc. is one of the leading manufacturers of lighting and controls equipment in the world. We are a U.S. corporation based in Georgia with offices, manufacturing facilities, and training centers across the United States. We employee over 7,000 associates, and our fiscal year 2015 net sales totaled over $2.7 billion. As one of the top providers of lighting solutions for both indoor and outdoor applications, we continue to innovate and expand our offerings to meet the needs and demands of our customers who desire energy-efficient products.

As you are aware, DOE's appliance efficiency standards were born out of the Energy Policy and Conservation Act (EPCA), which was signed into law in 1975. Originally, DOE was to prescribe energy efficiency standards for 13 product classes. Over the years, the list of covered products has grown more than four-fold and now covers almost 60 products. Further, many of these products have been subject to two (or more) energy efficiency standards. While the Department's appliance standards have resulted in increased energy efficiency levels for covered products, each round of updated standards produces diminished returns for consumers and manufacturers--each updated standard results in smaller improvements in energy efficiency and comes at a much greater cost for product manufacturers.

While Acuity Brands fully supports the objectives of the EPCA and DOE with respect to increased energy efficiency, we believe it is time to reform the EPCA appliance standard regime. The

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In sum, the EPCA structure has shortcomings that can and should be addressed by Congress. Common-sense reforms could reduce costs for manufacturers and consumers without jeopardizing gains in energy efficiency.

Again, Acuity Brands appreciates this Committee's attention to these important issues, and we look forward to working with you as reform measures develop and progress.

Sincerely,

[redacted]

Cheryl English
VP, Government & Industry Solutions
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Universal Lighting Technologies

VIA ELECTRONIC MAIL

The Honorable Ed Whitfield
Chairman
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House Committee on Energy and Commerce
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Washington, DC 20515

The Honorable Bobby Rush
Ranking Member
Subcommittee on Energy and Power
House Committee on Energy and Commerce
2322A Rayburn House Office Building
Washington, DC 20515

RE: House Energy and Commerce Subcommittee on Energy and Power Hearing: "Home Appliance Energy Efficiency Standards Under the Department of Energy – Stakeholder Perspectives"

Dear Chairman Whitfield and Ranking Member Rush:

Thank you for holding the June 10, 2016, hearing on the Department of Energy's (DOE) energy efficiency standards for home appliances. We appreciate the Committee's attention to this important matter.

Universal Lighting Technologies is a member of the Panasonic Group and represent their lighting distribution arm in the United States. We have over 2,000 points of distribution, 3 engineering facilities, and our corporate office in Nashville TN.

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Universal Lighting Technologies

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Again, Universal Lighting Technologies appreciates this Committee's attention to these important issues, and we look forward to working with you as reform measures develop and progress.

Sincerely,

[redacted]

Vice President of Marketing
Universal Lighting Technologies

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LUTRON ELECTRONICS CO., INC.

DR. S. PEKKA HAKKARAINEN, MA, PhD
Vice President

9 June 2016

VIA ELECTRONIC MAIL

The Honorable Ed Whitfield
Chairman
Subcommittee on Energy and Power
House Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Bobby Rush
Ranking Member
Subcommittee on Energy and Power
House Committee on Energy and Commerce
2322A Rayburn House Office Building
Washington, DC 20515

RE: House Energy and Commerce Subcommittee on Energy and Power Hearing: "Home Appliance Energy Efficiency Standards Under the Department of Energy – Stakeholder Perspectives"

Dear Chairman Whitfield and Ranking Member Rush:

Thank you for holding the June 10, 2016, hearing on the Department of Energy's (DOE) energy efficiency standards for home appliances. Lutron appreciates the Committee's attention to this important matter.

Lutron was founded in 1961 and is a manufacturer of lighting control systems and motorized window shade systems, headquartered in Coopersburg PA. Lutron has factories in Albertis PA, Allentown PA, Ashland VA, Humacao PR and four locations outside the United States.

As you are aware, DOE's appliance efficiency standards were born out of the Energy Policy and Conservation Act (EPCA), which was signed into law in 1975. Originally, DOE was to prescribe energy efficiency standards for 13 product classes. Over the years, the list of covered products has grown more than four-fold and now covers almost 60 products. Further, many of these products have been subject to two (or more) energy efficiency standards. While the Department's appliance standards have resulted in increased energy efficiency levels for covered products, each round of updated standards produces diminished returns for consumers and manufacturers--each updated standard results in smaller improvements in energy efficiency and comes at a much greater cost for product manufacturers.

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Again, Lutron appreciates this Committee's attention to these important issues, and we look forward to working with you as reform measures develop and progress.

Sincerely,

Pekka Hakkarainen, PhD
VP Government and Industry Relations
Lutron Electronics Co., Inc.

Appleton Group

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Industrial Automation

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June 9, 2016

VIA ELECTRONIC MAIL

The Honorable Ed Whitfield
Chairman
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House Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Bobby Rush
Ranking Member
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Washington, DC 20515

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Appleton Group is a business unit of Emerson Electric, based in Rosemont Illinois with manufacturing of dry type distribution transformers taking place at our factory in Rainsville Alabama under the Hevi-Duty brand name.

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In sum, the EPCA structure has shortcomings that can and should be addressed by Congress. Common-sense reforms could reduce costs for manufacturers and consumers without jeopardizing gains in energy efficiency.

Again, Appleton Group appreciates this Committee's attention to these important issues, and we look forward to working with you as reform measures develop and progress.

Sincerely,

Michael Johnson
Vice President Product Marketing
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847-268-6337

energy focus
The LED Company with a Brighter Vision

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June 9, 2016

VIA ELECTRONIC MAIL

The Honorable Ed Whitfield
Chairman
Subcommittee on Energy and Power
House Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Bobby Rush
Ranking Member
Subcommittee on Energy and Power
House Committee on Energy and Commerce
2322A Rayburn House Office Building
Washington, DC 20515

RE: House Energy and Commerce Subcommittee on Energy and Power Hearing: "Home Appliance Energy Efficiency Standards Under the Department of Energy – Stakeholder Perspectives"

Dear Chairman Whitfield and Ranking Member Rush:

Thank you for holding the June 10, 2016, hearing on the Department of Energy's (DOE) energy efficiency standards for home appliances. We appreciate the Committee's attention to this important matter.

I am the Executive Chairman of Energy Focus, Inc. which is headquartered in Solon, Ohio. Energy Focus, Inc. is a leading provider of energy efficient LED lighting products, and a developer of energy efficient lighting technology. Energy Focus' LED tubes are ideal for retrofitting existing commercial fluorescent fixtures and can reduce lighting electricity costs by up to 75 percent.

As you are aware, DOE's appliance efficiency standards were born out of the Energy Policy and Conservation Act (EPCA), which was signed into law in 1975. Originally, DOE was to prescribe energy efficiency standards for 13 product classes. Over the years, the list of covered products has grown more than four-fold and now covers almost 60 products. Further, many of these products have been subject to two (or more) energy efficiency standards. While the Department's appliance standards have resulted in increased energy efficiency levels for covered products, each round of updated standards produces diminished returns for consumers and manufacturers--each updated standard results in smaller improvements in energy efficiency and comes at a much greater cost for product manufacturers.

While Energy Focus, Inc. fully supports the objectives of the EPCA and DOE with respect to increased energy efficiency, we believe it is time to improve the EPCA appliance standard regime. The EPCA framework, developed decades ago, is ill-suited for fast-paced advances in modern technology and the reality of an increasingly efficiency-driven consumer market.

The EPCA, for example, requires DOE to review and update, if it deems warranted, energy efficiency standards for covered product classes at least every six years. Although standard updates are not required every six years (i.e., the Secretary may determine that a standard need not be amended), DOE faces pressure from several stakeholder groups to *act* every six years. While this timeframe for repeated rulemakings/updates may seem logical on paper, mature technologies – including many in the

lighting industry – are unable to produce sustained energy efficiency increases without undue costs for marginal upgrades in efficiency. In addition, the six-year timeframe does not grant DOE sufficient time to evaluate the overall effectiveness of its latest efficiency standard before beginning the next rulemaking process. Repeated rulemakings also divert manufacturing engineering resources from accelerating the introduction of new technologies that are often more energy efficient that the technologies in an updated rulemaking.

The EPCA also restricts the Department's ability to make commonsense, consensus-driven changes to energy efficiency standards, test procedures, and product class definitions without Congressional action. This leads to an overly-rigid regulatory structure that is unresponsive to changes in products (including the development of brand new products) and consumer/market demands. Ultimately, these challenges lead to higher costs for product manufacturers and higher prices for American consumers.

In sum, the EPCA structure has shortcomings that can and should be addressed by Congress. Common-sense reforms could reduce costs for manufacturers and consumers without jeopardizing gains in energy efficiency.

Again, Energy Focus Inc. appreciates this Committee's attention to these important issues, and we look forward to working with you as reform measures develop and progress.

Sincerely,

[redacted]

James Tu
Executive Chairman
Energy Focus, Inc.

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Building Control Systems
1061 South 800 East
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June 10, 2016

VIA ELECTRONIC MAIL

The Honorable Ed Whitfield
Chairman
Subcommittee on Energy and Power
House Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Bobby Rush
Ranking Member
Subcommittee on Energy and Power
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Legrand is a global manufacturer of electrical and digital building infrastructure with reported sales of $5.3 billion in 2015. Legrand has a strong presence in North America, with several thousand employees and well-known product lines that include C2G, Cablofil, Electrorack, Middle Atlantic, NuVo, On-Q, Ortronics, Pass & Seymour, Quiktron, Vantage, Watt Stopper and Wiremold.

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legrand®

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Again, Legrand appreciates this Committee's attention to these important issues, and we look forward to working with you as reform measures develop and progress.

Sincerely,

Harold Jepsen P.E
VP Standards & Industry Affairs
BUILDING CONTROL SYSTEMS

Legrand, North America

Submitted Testimony of Spire Inc.

to the
House Committee on Energy and Commerce;
Subcommittee on Energy and Power

for the Hearing
"Home Appliance Energy Efficiency Standards Under the Department of Energy– Stakeholder Perspectives"

by
Mark E. Krebs
June 10th, 2016

About Spire Inc

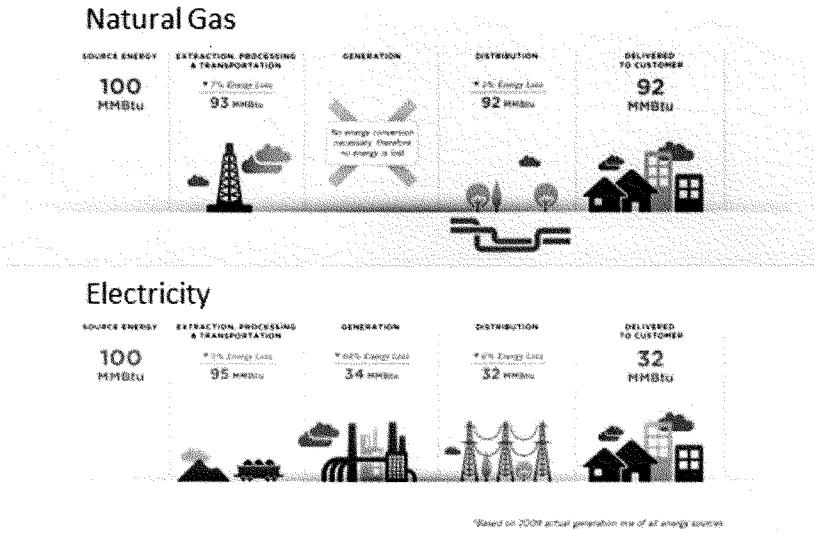
Spire Inc. ("Spire") formerly known as The Laclede Group, Inc., is a holding company that owns and operates natural gas utilities in Missouri and Alabama. Today, these companies provide natural gas distribution service to more than 1.5 million residential, commercial and industrial customers; making Spire the fourth largest publicly traded gas-only utility company in the United States per number of customers served.

Summary of Testimony

Spire is very encouraged by the scope of the memo from House staff to its members dated June 9th, 2015. Ideally, Spire would have preferred that the hearing also focus on the impact of various DOE initiatives on natural gas distribution companies. While we realize that this conference was initiated by the appliance manufacturers, and we support most of their grievances, it should be noted that our interests differ when it comes to fuel preferences: They sell gas and electric appliances. We only distribute gas. Therefore, Spire is submitting this testimony in hopes that it will be read, placed into the record, fully considered and that natural gas distribution companies, like Spire, will be given a greater role next time such matters are considered.

Spire contends the Energy Efficiency and Renewable Energy (EERE) division of the Department of Energy (DOE) has a long-standing bias towards electricity; even though the direct use of natural gas is nearly three times more efficient that electricity when the complete fuel-cycle is considered as illustrated by the following graphic:

Comparative Overall Efficiencies of Natural Gas to Electric Deliveries



Source: AGA 2016 Playbook PowerPoint Presentation

Further evidence of bias is clear within most of DOE/EERE minimum efficiency "determinations" for appliances that often omit any consideration of establishing similar efficiency standards for electric appliances. That usually means gas appliances become more expensive relative to their electric counterparts. In turn, that tends to move the market towards more electrification. In the end, this has and will continue to lead to a "lessening competition" where consumer choice will inevitably be more and more limited to electric appliances. Moreover, the evidence that has accumulated over the past decade or more indicates that this result is deliberate.

To address these critical concerns, Spire's recommends that:

1. Congress initiate another moratorium on appliance efficiency codes similar to the one referenced in the above referenced memo.
2. Congress take action to impose a moratorium on DOE/EERE's ever-increasing efforts to federalize the development of building codes so as to move them away from the direction of net-zero energy (e.g. Sec. 433 of EISA).

3. Congress hold additional hearings or technical conferences to gain a better understanding of the flaws and irregularities that permeate the DOE/EERE processes and methodologies for making its energy efficiency "determinations."

Body of Testimony

Our testimony, as shown below, presents the basis and rationale for our requests. Out of respect for the Committee's time, we will be concise; starting with the "big picture" which is: DOE/EERE intends to do to natural gas what it is doing to coal. The ostensible reason appears to be based on the fact that natural gas, like coal, has carbon in it and the radical beliefs that carbon-based fuels are "bad" and their consumption should be minimized (if not eliminated).

The truth of the matter, however, is that natural gas utilities should not (and probably cannot) be phased out because:

1. Natural gas delivers more usable energy directly to American consumers than electricity.
2. Natural gas does so far more economically and with far less overall pollution than electricity.
3. Efforts to phase out natural gas end users will thwart rather than advance the very efficiency and environmental goals that DOE supposed wishes to promote with its rulemaking initiatives.

DOE/EERE and their environmental clientele nevertheless support such an approach, presumably on the mistaken belief that electricity will be dominated by renewables and that resultant economies-of-scale will make electricity less expensive. Spire believes that anyone advocating such an untenable scenario should have an obligation to demonstrate exactly how such an outcome is economically and operationally possible; which then should be fully open for debate.

The following three graphics are excerpts from a November 2015 study titled: "Policy Implications of Deep Decarbonization in the United States". They illustrate the DOE/EERE end game for weaning consumers off of the direct use of natural gas and on to electricity under the unsubstantiated and fanciful belief that someday soon electricity will be primarily derived from renewable sources. DOE/EERE, through its "national labs" funded this study.

Congress should further note that this "study" is being conducted and coordinated with the United Nations. This is evidenced by the statement on the cover of this study: "A GLOBAL INITIATIVE FOR THE UNITED NATIONS." Spire would hope that issues of such critical importance to the American economy and energy consumers in this country will not be relegated to the decision making apparatus of other nations.

Figure 7. Average Household Spending for Energy Goods and Services, 2050 Mixed Case

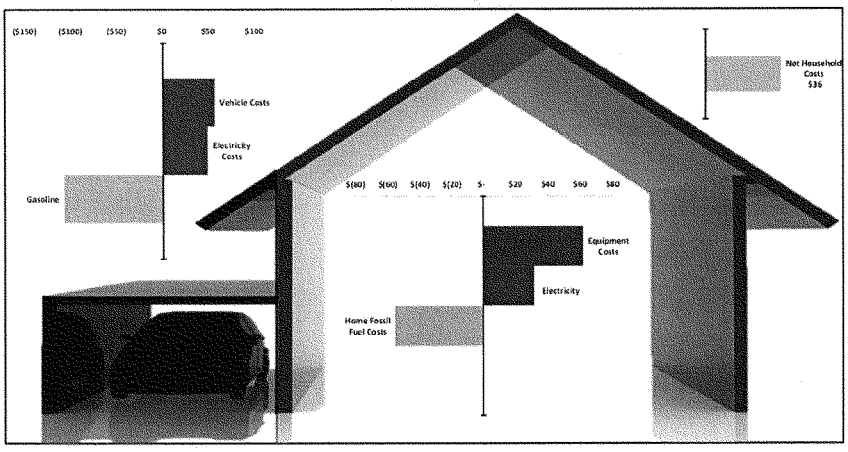


Figure 2. U.S. Energy System in 2014

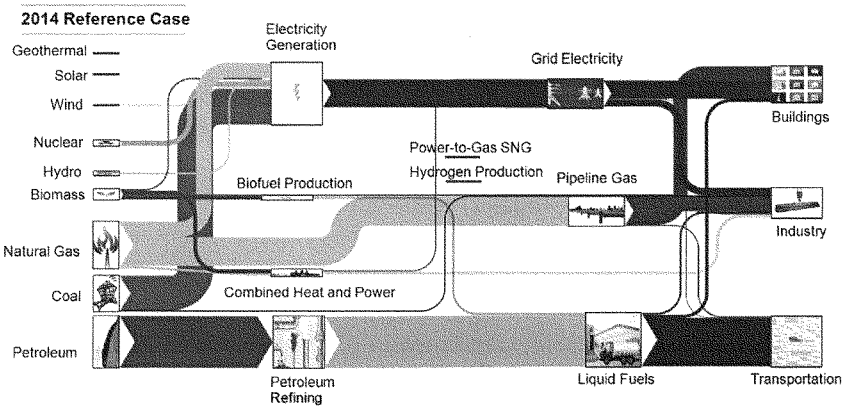
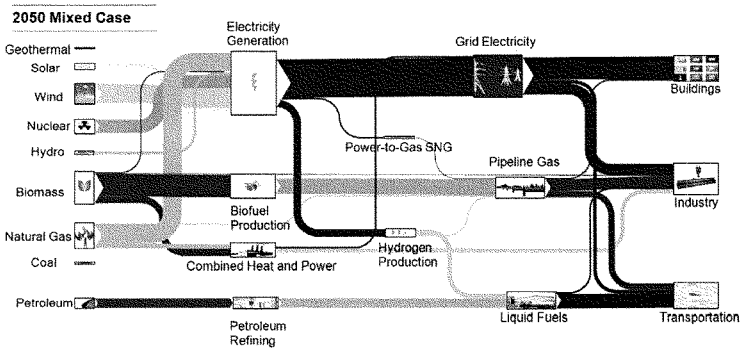


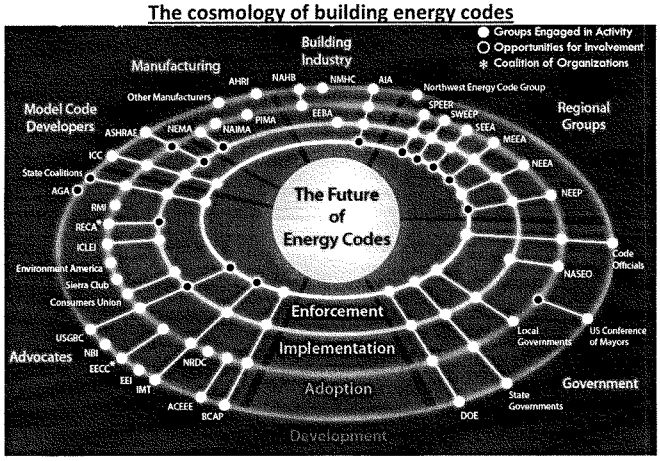
Figure 3. Deeply Decarbonized U.S. Energy System in 2050 (Mixed Case)



In addition to appliance minimum efficiency standards, DOE/EERE is also moving in the direction of "deep decarbonization" through what is tantamount to a nationalization of what once were independent energy codes. Spire has video evidence of DOE/EERE exerting what Spire believes to be undue influence on one such code body; the International Conservation Code (ICC).

Congress increases DOE/EERE funding for such activities without fully understanding the implications. Like most Federal bureaucracies, more funding equates to more centralized control. In the case of building energy codes, the end game is to have DOE/EERE at the center of the building code universe as shown below:

The cosmology of building energy codes



DOE/EERE legal violations

In seeking to establish various DOE/EERE's various appliance minimum efficiency standards DOE/EERE has routinely violated or disregarded several procedural requirements contained within 10 CFR 430(a) and elsewhere. As identified in the previously cited memo from Committee Staff to its Members, these and other violations in the face of the extensive efforts to reform standards-making processes resulted in the product of the 1996 "Process Improvement Rule" which in turn led to 10 CFR 430(a). Specifically:

1. DOE/EERE is demonstrating a pattern of ignoring the procedural requirement prohibiting simultaneous development of test procedure and efficiency rulemakings [10 CFR 430, Subpart C, Appendix A, 7 "Test Procedures"].

   Section 7(c) of the Energy Policy and Conservation Act (EPCA) affirmative requires that *"Final, modified test procedures will be issued prior to the NOPR on proposed standards."* Despite this explicit legal requirement, DOE/EERE is issuing NOPR's without adopting such test procedures. The *following* is DOE's explanation in Docket Number EERE-2014-BT-STD-0031/ RIN NO. 1904-AD20 (for residential furnaces) for not complying with this requirement:

   > *DOE has "tentatively determined" that this amendment to the test procedure would not be substantial enough to merit a revision of the proposed AFUE efficiency levels for residential furnaces.*

   Nowhere does DOE provide the basis for its "tentative determination" that an up-to-date test procedure is unnecessary. Nor does DOE explain how such determination relieves it of its legal obligation to adopt one. Unfortunately, this pattern is being repeated In DOE/EERE's recently released NOPR's for commercial boilers and commercial water heaters. To date, DOE/EERE has failed to provide any analysis that would justify such tentative determinations.

2. DOE/EERE "Utility Impact Analysis" consistently only addresses electric utilities.

   Per the aforementioned "Process Improvement Rule" DOE is supposed to conduct a utility impact analysis that specifically calls for "estimated marginal impacts on electric and gas utility costs and revenues." [Emphasis added] However, DOE/EERE's Utility Impact Analysis routinely omit analyses of impacts on gas utility costs and revenues as required.

3. DOE/EERE routinely attempts to eliminate whole product classes; a result that contributes to a significant lessening of competition. Among other things, this is evidenced by
   A. DOE/EERE lack of response to comments calling for the establishment of separate but workable product classes for condensing and non-condensing furnaces, (rather the complete elimination of the latter)
   B. DOE/EERE's failure to meaningfully revisit its proposed elimination of the non-condensing furnaces in response to the court directive in APGA vs. DOE.
   C. DOE/EERE's Lack of agency leadership regarding negotiations on alternative product class treatment of non-weatherized residential gas furnaces based on Btu input, which is

prohibited by statute since it eliminates products based on "sizes and capacities." Also, lack of agency leadership addressing the statutory "small furnace" definition and the negotiation of another definition presents conflicts.

D. DOE/EERE's capricious elimination of product classes (commercial package boilers) based on public comments on "efficiency" where unique product consumer utility provided the original basis of condensing and non-condensing product classes.

4. DOE/EERE's failure to define specific criteria for "economic justification" of proposed minimum standards, omissions that allow major percentages of consumers and consumer groups to be negatively impacted.

5. DOE/EERE's failure to engage stakeholders in development of supporting analysis at the beginning of the analytical process, instead forcing stakeholders to learn what DOE did after significant expenditure of funds and when fundamental corrections in the analytical procedure and data develop are unlikely if not impossible to undertake.

Summary & Conclusions

We realize the above list may be "getting into the weeds" a little deeper than the Committee is prepared to go at this time. However, in order to exercise Congressional authority over DOE/EERE, Congress should fully understand just how opaque and deficient DOE/EERE's analyses have become and how DOE/EERE has effectively shifted the burden of proof to "industry;" particularly the gas utility industry. Basically, DOE/EERE's game is "if you don't like it sue us." The American Public Gas Association (APGA) tried in 2011 and they are still recovering from the expense.

The primary strategy that DOE routinely employs in its appliance minimum efficiency "determinations" is to increase the efficiency requirements imposed on gas appliances more than those imposed on their electric counterparts. The end result is that gas appliances cost more. This, in turn, artificially moves the market to increased levels of electrification. This market movement is readily apparent by shipment data for cooking, clothes drying, commercial water heating, etc.

DOE's biases against natural gas direct use are based in radical concepts of "deep decarbonization." In the case of the coal industry, self-defense against such a "mission" was futile. Increasingly, the sights are now being set on natural gas; but only for direct use market segments. Somehow, natural gas is still deemed "clean, but only if it is used in electric power plants and efficiency is only calculated at the point-of-use."

DOE/EERE chronically rejects industry suggestions to improve the transparency of DOE's data and procedures. Rather than recount such incidents, Spire suggests a more technical hearing/conference be held by Congress for the purpose of gaining a better understanding of DOE/EERE serial misuse of its authority.

Another source of administrative misuse of its authority can be found in legislation that contains terms that enable DOE to do what it wants. Such terms include "As the Secretary determines" and the word "consider."

Spire would refer the Committee to Appendix A and the links provided below for additional details and insight regarding DOE/EERE's chronic "energy efficiency" failures. These include:

1. December 1996 Public Utilities Fortnightly article: "It's a War Out There: A Gas Man Questions Electric Efficiency"
2. All articles at Master Resource by Mark Krebs (by entering "Mark Krebs" into the search box)
3. Filed comments by the Laclede Group for Docket Number EERE-2014-BT-STD-0031/ RIN NO. 1904-AD20 and dated July 10th, 2015

Appendix A may be especially useful to give Congress a quick sense of how arbitrary and capricious DOE/EERE minimum efficiency "determinations can be; at least in the case of residential furnaces. It is a table that compares how vastly DOE/EERE's "determinations" regarding the impact of its proposed efficiency requirements changed for residential furnaces between 2011 and 2015. So far, DOE has not explained why or how it reached these widely varying analytical results in the span of just a few years.

This concludes Spire's testimony.

Respectively submitted

[redacted]

Mark Krebs
Energy Policies and Standards Specialist
Spire Energy
700 Market Street
St. Louis, MO 63101
[redacted]

Appendix A

In an effort to graphically illustrate what appears to be DOE's vindictive behavior, the following table compares key differences in DOE's official "determinations " within its Life Cycle Cost (LCC) spreadsheets between the 2011 DFR and this current NOPR.

Comparison of 2011 & 2015 Life Cycle Cost (LCC)
Spreadsheet Results for Non-Weatherized Residential Gas Furnaces

	AFUE	2011 Average LCC savings	2015 Average LCC savings	Delta	% Change
National - All Installations	90%	$87	$236	$149	170.9%
	92%	$136	$305	$169	124.1%
	95%	$205	$388	$183	89.1%
	98%	$46	$441	$395	859.1%
North - All Installations	90%	$155	$208	$53	34.0%
	92%	$215	$277	$62	29.0%
	95%	$323	$374	$51	15.7%
	98%	$198	$467	$269	135.9%
South/Rest of Country - All Installations	90%	-$13	$267	$280	2156.3%
	92%	$19	$336	$317	1667.2%
	95%	$28	$404	$376	1341.4%
	98%	-$181	$412	$593	327.7%
National - Replacements	90%	-$11	$113	$124	1130.2%
	92%	$39	$179	$140	355.5%
	95%	$111	$264	$152	136.8%
	98%	-$26	$319	$346	1309.0%
North - Replacements	90%	$90	$106	$16	17.4%
	92%	$151	$172	$21	13.6%
	95%	$262	$259	-$3	1.1%
	98%	$158	$362	$204	129.0%
South/Rest of Country - Replacements	90%	-$160	$120	$280	175.4%
	92%	-$125	$188	$312	250.5%
	95%	-$110	$268	$378	343.7%
	98%	-$297	$273	$570	191.7%
National - New Construction	90%	$383	$588	$205	53.6%
	92%	$429	$659	$230	53.5%
	95%	$487	$730	$244	50.0%
	98%	$264	$764	$499	188.9%
North - New Construction	90%	$343	$484	$141	41.2%
	92%	$404	$557	$153	38.0%
	95%	$502	$665	$163	32.5%
	98%	$315	$704	$389	123.4%
South/Rest of Country - New Construction	90%	$445	$710	$265	59.5%
	92%	$469	$779	$310	66.0%
	95%	$463	$807	$344	74.3%
	98%	$184	$834	$649	352.3%

Notes to table:

- 2011 data from EERE-2011-BT-STD-0011-0010 LCC spreadsheet, summary tab, cells K9:K58, L9:L58 & AI9:AI58
- 2014 data from EERE-2014-BT-STD-0031-0021 LCC spreadsheet, summary tab, cells O8:O41, AE8:AE41 & AT:AT41

This table was presented to DOE at the continuation of its public meeting on April 13th, 2015 and subsequently entered into regulations.gov on April 30th, 2015. At that time, I asked DOE to account for these changes. At page 127, line 21-22, of the transcript, DOE's explanation was:

1. *BROOKMAN: Okay. We're going to move on now to manufacturer impact analysis.*

Submitted Testimony of the American Public Gas Association to the House Committee on Energy and Commerce Subcommittee on Energy and Power Hearing, "Home Appliance Energy Efficiency Standards Under the Department of Energy– Stakeholder Perspectives"

A Consumer Perspective

On behalf of the American Public Gas Association (APGA), we appreciate this opportunity to submit testimony to this important hearing addressing the Home Appliance Energy Efficiency Standards under the Department of Energy– Stakeholder Perspectives.

APGA is the national association for publicly owned natural gas distribution systems. There are approximately 1,000 public gas systems in 37 states and over 730 of these systems are APGA members. Publicly-owned gas systems are not-for-profit, retail distribution entities owned by, and accountable to, the citizens they serve. They include municipal gas distribution systems, public utility districts, county districts, and other public agencies that own and operate natural gas distribution facilities in their communities. Public gas systems' primary focus is on providing safe, reliable, and affordable natural gas service to their customers.

At the most basic level, APGA represents the views of American natural gas consumers. Our members serve the homeowners and small businesses which rely on affordable natural gas to heat their homes and water, cook their meals, and dry their clothes, power their restaurants, schools and hospitals, and service businesses of all types.

As the debate on our energy future continues, it is clear that energy efficiency has to be one of the foundations on which we build our energy future. APGA is a strong proponent of energy efficiency standards; however, they must be based on sound science, transparent data, and be economically justifiable.

DOE, as an agency of our federal government, must recognize that not all consumers can afford the top-of-the-line, highest efficiency equipment. When DOE continuously promulgates regulations that increase the price of equipment and installation costs for minimal efficiency improvements, the result is that existing less efficient equipment gets repaired and remains in service, or fuel switching takes place because of consumer sticker-shock. Over its history, DOE has been an important partner in developing new technologies; however, in recent years DOE has stepped over the line in establishing "minimum" efficiency standards. In fact, DOE is really pushing for "maximum" efficiency standards, and ignoring the data showing that the market *does* move innovation without being forced by rules that cause market failures (i.e., rules that force consumers either to purchase expensive high efficiency appliances that do not result in life cycle savings or to switch to less efficient non-gas burning appliances due to the high up-front costs of the mandated high efficiency gas-fired product. . For example, in 2007, DOE reviewed the minimum residential furnace standards and declined to require a condensing furnace standard due to the fuel switching that would occur, primarily in the South; yet the market share for high efficiency condensing furnaces has grown dramatically over the last eight years, especially in the North where the life cycle savings of high efficiency furnaces warrant their purchase. Agencies must learn to defer to markets where the data shows that the market is working, as is the case with residential furnaces.

We highlight the need for sound science, transparency and economic justification not as a way to stymie energy efficiency gains but as fundamentals on which DOE must rely to develop energy efficiency standards that meet the requirements of its enabling statute. Equipment manufacturers, consumers and many other stakeholders have an interest in moving towards the adoption of the next generation of energy efficient equipment. DOE's role should be to establish minimum standards in an open and transparent manner, based on peer-reviewed scientific information.

With regards to the open and transparent rulemaking process, APGA has voiced strong concerns about the lack of transparency in regard to the manner in which the rulemaking for residential furnace efficiency standards has been handled. Specifically, in the furnace rulemaking initiated in 2015, DOE relied on proprietary data from two privately authored American Home Comfort studies in its life cycle costs calculation. To view this data, APGA was required to purchase the studies at a cost of $15,000 and retain expert consultants to analyze the data. What this data actually revealed was the opposite of what DOE asserted it showed, and APGA has pointed that out in comments to DOE on its NOPR, along with a demonstration that the spreadsheet science upon which DOE was relying was fundamentally flawed; whether DOE actually pays attention to these comments will be a strong indicator of whether DOE is approaching its responsibilities under the Energy Policy and Conservation Act in good faith or simply manipulating data to push a pre-set agenda.

Regarding the use of proprietary data, it is APGA's position that such data should not be utilized in a DOE rulemaking unless that data is made available to the public at no cost and without limitations as to its use in the rulemaking. The perils of an agency relying on such data have been demonstrated in the furnace rulemaking proceeding where stakeholder analysis of the proprietary data showed that it rebutted, rather than supported, the point DOE was seeking to make.

In addition, DOE is now repeatedly deviating from its long standing process rule of establishing revised testing procedures, based on a full record, prior to determining if a revised energy efficiency standard is warranted. This process of establishing test procedures before setting standards allows for a very robust and engaged dialogue *at both stages* and diminishes the chance that the standard-setting exercise will go off the tracks.

Unfortunately, when DOE bypasses this two-stage process, it no longer allows stakeholders the opportunity to offer meaningful comments. It instead fosters an antagonistic relationship with those same stakeholders, who understand that a necessary predicate to setting standards is to first establish the test procedures for such standards.

Two recent examples of efficiency rulemakings proceeding on the same timeline as a test procedures rulemaking can be seen in DOE's proposed Commercial Package Boiler and Commercial Water Heater rules. Not only is DOE proposing new energy efficiency standards, they are also proposing to revise the testing procedures at the same time rather than seriatim. The finalization of any Test Procedures NOPR is a necessary precursor for stakeholders to meaningfully review and comment on the Standards NOPR. However, as currently proposed,

stakeholders will not have an opportunity to review a final rule on the test procedures prior to submitting comments on the Standards NOPR. If stakeholders do not know the exact procedure for testing equipment to determine compliance with the proposed efficiency standards, they cannot meaningfully analyze and comment on the impact of the proposed standards. By moving forward with the Standards NOPR before the Test Procedures NOPR is final, DOE will have essentially foreclosed the possibility that the test procedure could be modified in response to public comment, despite DOE's obligation to consider relevant matters presented during the comment period.

To further illustrate the stakeholder burden issue, on DOE's residential furnace rule, APGA has spent close to a million dollars in scientific and legal costs pushing back on a standard that would cause great harm to natural gas consumers by doing away with non-condensing furnaces and thereby forcing consumers to fuel switch to less efficient appliances. The furnace rule appears to be an example of ideology driving the decision-making process and not sound science. DOE tried to push the original proposal through the direct final rule process five years ago despite receiving adverse concerns from over 30 separate organizations. APGA appealed that rule, and DOE's response, after agreeing in appellate mediation to vacate the rule and remand the proceeding, was to publish an even more extreme proposal that under its own analysis would negatively impact one in five homeowners. While APGA and its members are strong supporters of energy efficiency, we are also strong opponents of proposed rules that are founded on faulty science and on non-transparent data – rules that ultimately will burden, rather than benefit, millions of consumers, driving many of them to switch from efficient natural gas appliances to less efficient alternatives. The furnace rule being proposed by DOE is falsely grounded and will

ultimately undermine efficiency goals while significantly and unnecessarily increasing consumer costs.

Conclusion

APGA appreciates the opportunity to submit testimony before the House Energy and Commerce Subcommittee on Energy and Power on this critical natural gas and public interest issue. We stand ready to work with the Committee on these and all other natural gas issues.

SUB ZERO GROUP, INC.
4717 Hammersley Road, Madison, WI 53711
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June 8, 2016

The Honorable Ed Whitefield
Sub-Committee Chairman Energy and Power Sub-Committee
House Energy and Commerce Committee
Rayburn House Office Building
Washington, D.C. 20515

The Honorable Bobby Rush
Sub-Committee Ranking Member House Energy and Power Sub-Committee
House Energy and Commerce Committee
Rayburn House Office Building
Washington, D.C. 20515

Re: DOE's NOPR for Energy Conservation Standards for Residential Conventional Ovens, Docket Number EE-2014-BT-STD-0005, RIN 1904-AD15

Gentlemen:

Sub*Zero Corporation is pleased that the Sub-Committee is holding this very valuable hearing on the current regulatory climate. We realize your hearing has to do with the overall regulatory process; however, I wanted to summarize our business concerns and state some of the specific reasons for why the above reference regulation, as written today, would have a profoundly negative impact our business and all of those in our industry that serve this niche market. Sub-Zero is a third generation family owned business which manufactures all of its products at unionized plants in Arizona and Wisconsin.

In the end we have one defining question: **why would the Department of Energy choose to ignore the fact that there are fundamental differences in design and materials between "conventional" and "high performance/professional grade" cooking appliances?** The niche market we serve demands high performance, maximum utility and long term reliability. Many of those demands are best delivered by using designs, higher grade (and/or mass) materials along with pre-heat algorithms that impede the ability to deliver conventional equivalency in the area of energy efficiency. We firmly believe that we deserve a separate product category to allow us to continue serving a distinctively different market than what is expected from a "conventional" product. Forcing companies likes us to make design and material changes to comply with the DOE's regulation would blur the lines between distinctively different markets; thereby, dramatically changing the competitive landscape.

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Corporate Summary:
It is our hope that the Department would reconsider its position and establish a separate set of standards for high performance ovens (and gas cooktops if and when they become regulated). The current language used in the proposed rule imposes serious challenges for a small American niche manufacturing company like Sub Zero/Wolf. Sub-Zero has a unique story to tell. In an age when too many manufacturing jobs have been sent overseas by large, faceless corporations, Sub-Zero continues to be a family-owned company with operations exclusively in Wisconsin and Arizona.

Over the past 70 years, Sub-Zero has developed a niche market with its product line of customized built-in refrigerators, freezers and wine storage products. They took that same mindset and business strategy into cooking in the year 2000 when they launched the Wolf brand. Since that time, they have been producing high performance cooking products, which includes Ranges and Wall Ovens. Along that journey, they have a tradition of working with the DOE closely to define reasonable and practical energy efficiency standards that take into account its unique product line, which is predicated upon meeting their market's expectations for high-end performance and superior quality and reliability. In short, they have always looked to comply with regulations without jeopardizing their ability to remain separate from the conventional appliance products.

The Department's labeling of all cooking products as, "conventional", forces a small family owned manufacturer like Sub-Zero/Wolf to abandon its distinct line of ranges and ovens, which creates a significant disparity in the competitive landscape. The proposed regulation does not properly consider the differences in design and materials between conventional and high performance/professional grade appliances. Sub-Zero/Wolf's business is exclusively tied to a market that expects well-engineered and long lasting products; whereas, many of the mass market manufacturers, many of whom produce their products outside of the United States, serve a very price sensitive market that accepts lower grade materials and design.

We have significant concerns about the Department's goal of establishing a final rule by the end of this year without assurance that manufacturer's like Sub-Zero/Wolf will not be negatively impacted. We share the Department's concerns about responsible use of energy, but such regulations must be reasonable and preserve, not threaten, American jobs.

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Points we have already made via comments:
The DOE currently plans to broad-brush all products into product classes labeled "conventional". This is particularly puzzling since DOE analyzed our comments in 2006 and 2008, as well as those submitted by other manufacturers and AHAM, and concurred that high performance products provide a distinct utility to a customer segment. The stakeholders agreed at that time that the current test procedures are just not set up to evaluate high-performance products, and the relatively small size of the market, lack of data and very limited potential energy savings negate the value of further analysis. Lumping all ovens and gas cooktops into single product classes ignores design differences and the significant positive utility provided to a viable subset of consumers by high performance products.

We also note that DOE admitted during the July 14, 2015 meeting that evaluating changes in cooking performance were not part of the analysis DOE conducted for this rulemaking when evaluating candidate improved efficiency design options in any of the ovens tested, conventional or high-performance.

Design features employed by Wolf that impact efficiency levels of ***ovens*** (some of these features are employed by other "professional grade" manufacturers):

- Heavier gauge materials which extend product life, and enhance product quality, cooking functionality and durability.
- Configurations that allow for up to six rack baking capability with full extension, heavy gauge oven racks to support large loads and provide enhanced safety and ergonomic benefit.
- Full oven height dual convection blowers to optimize cooking air flow.
- Hidden bake elements that enhance customer safety, cleanability and heat distribution for better cooking performance.
- Controls and software to maximize the long term reliability of oven cavity porcelain, when employing a hidden bake element.
- Cooling fans for the Electronic Printed Circuit Boards that provide precise oven control and touch screen user interface for cooking modes and other features.

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Specific design features employed by Wolf (and most "professional grade" manufacturers) that impact efficiency levels of high performance ***gas cooktops*** include:

- Gas burner design attributes such as safety, performance, and efficiency are systemic; meaning, a change to one attribute significantly affects the others.
- There are many elements within a system attribute that must be taken into consideration, such as: mass of grates, diameter of gas burner, distance from burner to utensil surface, open area for primary and secondary air for combustion and exhaust of combustion by-products.
- High BTU burners with large diameters provide quicker heat up times allowing consumers to use large cooking vessels and maintain better heat distribution in the cooking utensil. This benefit is not reflected in the test procedure.
- The Performance attribute includes much more than speed-to-boil time. The high performance cooking consumer expects superior performance in controllability of the flame, specifically in the area of simmer heat for foods such as chocolate and sauces. Providing excellent simmer performance while also achieving fast speed-to-boil times is a design challenge and both requirements are impacted greatly by balancing safety and efficiency standards.
- The burner spacing between grate and vessel must be greater for high input burners in an effort to meet critical performance and safety requirements; specifically heat distribution and reduction of carbon monoxide.
- Reducing burner spacing between burner flame and testing vessel can increase efficiency; however, flame impingement/contact with the grate and vessel causes flame quenching (cooling), which directly leads to an increase in carbon monoxide levels and combustion by-products.
- Heavy cast iron grates supply better heat distribution to utensils while also providing superior strength to support large loads; furthermore, the heavier mass grates retain more heat once the burner is turned down to simmer or shut off. Although this fact is not captured by the test procedure, it does favorably influence the overall cooking efficiency. The heavier cast iron grates also provide the necessary longevity that is expected in this type of equipment by our customers.
- High performance cooking products incorporate heavier gauge (more mass) materials overall to support heavier cooking utensils and to meet or exceed customer expectations for performance, utility and overall product longevity.

Yours truly,

[redacted]

Christopher M. Jessup
Corporate Compliance Manager

House Committee on Energy and Commerce, Subcommittee on Energy and Power

"Home Appliance Energy Efficiency Standards Under the Department of Energy–

Stakeholder Perspectives."

June 10, 2016

Statement for the Record by the

National Association of Home Builders

1201 15th Street NW

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This statement is respectfully submitted on behalf of the more than 140,000 members of the National Association of Home Builders (NAHB). NAHB appreciates the opportunity to comment on this hearing entitled, *Home Appliance Energy Efficiency Standards Under the Department of Energy (DOE).* NAHB will focus on DOE's recently proposed rule for residential non-weatherized gas furnaces and mobile home furnaces. This rule highlights a number of flaws in the rulemaking process which have led to a proposed rule which is not cost-effective, alienates stakeholders and was not developed in a transparent manner.

NAHB is urging the Committee to do its part to avoid similar problems in the future. Specifically, NAHB encourages the Committee to work on comprehensive legislative solutions that would focus on improving transparency, ensure greater stakeholder engagement, and guarantee cost-effectiveness in the appliance standard program.

More details on the flaws regarding the current rulemaking process are cited below.

Cost-Effectiveness

Last year, DOE proposed a rule to increase the energy-efficiency of non-weatherized gas furnaces, establishing a 92% AFUE (annual fuel utilization efficiency) national standard. While this rule makes sense for the northern climate zone, where colder temperatures require constant furnace operation, it is not cost-effective in the southern U.S., where homes are less dependent on furnaces. Unfortunately, DOE used a nationwide cost-benefit analysis to determine whether this rule is economically justified, and this neglects significantly lower energy savings that would be realized in the South. DOE's own findings show 31% of consumers in the South would never recoup the initial investment of the higher

efficient furnace over its life. An NAHB analysis (using DOE's calculations) of two states in the deep South, Florida and Texas, showed annual energy savings of $8.40 and $26.10, respectively. With the cost of a furnace frequently exceeding $1,000, the economic payback for the consumer is well beyond the life of the equipment. A regional approach that reflects the costs and savings associated with each region makes better sense in this case.

Stakeholder Engagement

This proposed rule eliminates the availability of non-condensing furnaces, which complicates the replacement of these furnaces in existing homes across the country. Replacing a non-condensing furnace with a condensing furnace often requires remodeling to re-route the exhaust system. This potentially costs homeowners hundreds, if not thousands, of additional dollars. This type of retrofit may be impossible in some existing townhomes and multifamily structures, or even illegal, when banned by a condo association or if the retrofit conflicts with the building code. Further, replacing a furnace unexpectedly takes significantly more time and money. If all stakeholders were involved from the beginning, this oversight may have been avoided and a workable solution developed for families in these types of housing structures.

Lack of Transparency

During this rulemaking DOE used proprietary data to evaluate cost of the new standard, which was not made available to the public. Affected entities were at a loss to fully understand or provide meaningful comment on how those evaluations were performed or if the analyses were correct. During the public comment period, NAHB identified a number of price estimates that appeared to be incorrect, but without having access to the data used by DOE to calculate these estimates, NAHB could only request that the estimates be recalculated. In order to fully evaluate the parameters used in the DOE analysis, all data must be made publicly available.

Solutions

Legislation currently being considered as part of the Energy Bill Conference would require DOE to convene a representative advisory group of stakeholders to analyze the proposed rule to determine whether it is technically feasible and economically justified. If the stakeholders conclude the rule fails to meet these criteria, then the stakeholders must participate in a negotiated rulemaking. This legislation will help DOE better understand market realities, resulting in a cost-effective and economically justified rule. While this legislation would address this particular rulemaking, there may be future rulemakings that need to fully assess the economic impacts to all Americans. The Committee can help in this endeavor by crafting legislation to address all energy efficiency standards that incorporate the following elements:

- Improve transparency
- Ensure greater stakeholder engagement
- Guarantee cost-effectiveness

Conclusion

DOE failed to create an energy efficient standard that is economically justified, did not meaningfully engage all stakeholders and was not fully transparent. The proposed rule does not meet the spirit of the Energy Policy and Conservation Act of 1975, as amended. While a public comment period was provided, DOE did not engage in meaningful dialogue with all stakeholders nor share their data, resulting in a costly and flawed rule. In considering future legislation that addresses the development of energy efficiency standards, NAHB urges the Committee to focus on cost-effectiveness, greater stakeholder engagement and transparency. NAHB appreciates the opportunity to provide testimony and looks forward to working with the Committee on this important matter.

Submitted Testimony of the American Gas Association
Subcommittee on Energy and Power
House Committee on Energy and Commerce

Hearing on "Home Appliance Energy Efficiency Standards Under
The Department of Energy– Stakeholder Perspectives"
June 10, 2016

The American Gas Association (AGA) appreciates the opportunity to submit this statement for the record relating to the U.S. Department of Energy's energy conservation standards program for residential appliances.

The AGA, founded in 1918, represents more than 200 local energy companies that deliver clean natural gas throughout the United States. There are more than 72 million residential, commercial and industrial natural gas customers in the U.S., of which 95 percent – just under 69 million customers – receive their gas from AGA members. Today, natural gas meets more than one-fourth of the United States' energy needs.

AGA and its members are strong proponents for advancing energy efficiency in homes and businesses. For example, natural gas utilities have helped customers save 175 trillion Btu's of energy and offset 9.1 million metric tons of carbon dioxide emission in 2014 alone through investments in natural gas efficiency programs totaling more than $1.27 Billion.

AGA believes that well-designed federal minimum energy efficiency standards for appliances and equipment deliver significant value to consumers and the economy as a whole. The

Department of Energy can uniquely provide a needed function by establishing a uniform national regulatory environment, and preventing a patchwork of conflicting state standards that would be harmful to both business and consumer interests.

However, in recent years AGA has become increasingly concerned with process and implementation issues we have observed in new standards rulemakings. Going forward, we strongly encourage DOE to work more collaboratively with all stakeholders to reduce implementation difficulties that damage the integrity of the public process, and ultimately provide a disservice to significant numbers of American households.

A number of shortcomings in the Department's implementation of its regulatory responsibilities are evident in the on-going effort to develop a new energy efficiency standard for residential gas furnaces. Unfortunately, the furnace rule proceeding is emblematic of the Department's performance in a number of other rules related to natural gas appliances and equipment. AGA's major concerns in the context of the furnace rule are described below.

DOE conducted a non-transparent process. The DOE process associated with this rulemaking has consistently obscured the assumptions, data, and methodologies contained in their technical documents in support of the rule. Despite written inquiries, questions submitted by AGA to the DOE have gone almost completely unanswered. This is particularly troubling given the immense complexity of the proposed rule and its reliance on highly sophisticated and opaque modeling methodologies.

Much of the DOE analysis relies on methodologies that are proprietary or otherwise outside the public domain. Because DOE has failed to provide sufficient information needed by AGA – or

any member of the public – to develop a clear understanding of the technical analysis supporting this rulemaking, it is impossible to ascertain whether or not the proposed rule meets the criteria established by EPCA for establishing new and/or amended standards.

Transparency is a critical component of the rulemaking process since making more information available to the public enhances awareness and participation in the standards setting process. Transparency also is important as it allows the public to serve as an effective check on the regulatory system and helps safeguard against regulators pursuing policies that may not be consistent with the public interest and their enabling statutes.

Another negative consequence of this lack of transparency is that it has precluded opportunities for iterative improvements of the proposed rule through interactions with stakeholders. AGA sought to provide additional information and data that could have been usefully applied to the development of the furnace rule. Unfortunately, the Department failed to acknowledge this additional information in numerous circumstances, several of which are detailed below.

DOE's economic analysis underestimated the costs to consumers and other adverse impacts that amended standards would impose. AGA raised concerns with DOE that its cost and energy impact estimates did not fully reflect the costs that the initial proposed furnace standard of 92 percent AFUE would impose on consumers and the nation. According to the Department's own analysis, 66 percent of affected households would see no benefit or bear higher net costs under the proposed rule. In particular, this rule as proposed would have placed an undue burden

on low income consumers who will be unable to overcome the initial barrier presented by the higher unit costs of condensing furnaces.

AGA and other stakeholders offered DOE alternative, market-based data for key variables in DOE's Life Cycle Cost (LCC) analysis spreadsheet used to determine the economic feasibility of new standard levels for furnaces. Unfortunately, DOE did not engage the stakeholders in a discussion on the alternative data offered or utilize the data in the LCC spreadsheet. For example, although industry provided DOE with data indicating the average lifetime of gas furnaces is approximately 15 – 16 years, DOE chose to utilize their significantly longer lifetime estimate of 21.5 years in their analysis. DOE's overly optimistic assumption has the effect of inflating DOE's estimates of net economic benefits and energy savings to consumers, and increasing estimates of the share of consumers who experience life-cycle benefits.

DOE overestimated the size of the affected market. AGA has questioned the methodologies and data used in key components of DOE's Life Cycle Cost analysis/model. A critical component for identifying the potential benefits a new or amended efficiency standard will have on the market is to determine the size of the market that will actually be affected by the new standard. Based on AGA's technical expert's review of supporting documents for the proposed rule, there appeared to be flaws in the methodologies used by DOE that would overestimate the size of the market that would be affected by the proposed standard which would result in overstating the savings associated with the new standard.

AGA provided DOE with a revised Life Cycle Cost analysis that corrected the flawed methodologies in its comments on the furnace NOPR detailing the significant differences in the economic and energy consumption results between the two analyses but did not receive a response from DOE on this critical element of the rulemaking.

DOE used unexplained and inconsistent installation costs in its Life Cycle Cost analysis. When comparing DOE's 2011 Life Cycle Cost analysis with the Life Cycle Cost analysis used in the proposed standard, our technical experts identified a large differential in the installed costs of a baseline 80 percent Non-Weatherized Gas Furnaces (NWGFs) and the installed cost of condensing NWGFs. The installed cost for the 80 percent NWGF have increased while the installed costs of the condensing NWGF have decreased.

These large, unexplained changes in installed costs have contributed to improved Life Cycle Cost savings of condensing furnaces. In addition, the installed cost differential between the 80 percent NWGF and the condensing NWGFs in DOE LCC analysis used for the proposed rule is significantly less than the cost differential data AGA members have collected from a national survey of contractors in their market areas. Although AGA shared this data with the Department, it did not result in any changes to the DOE analysis.

Another troubling trend in DOE's implementation of regulatory process is a failure to comply with process rules governing changes in testing procedures. The Department is required to finalize any revisions in testing procedures for energy efficiency standards for covered products before proceeding to a rulemaking for determining whether a new energy

efficiency standard is necessary. This process break-down has most recently occurred in rulemakings concerning commercial packaged boilers and commercial water heaters.

Finalizing the testing procedures first is just common sense. Testing procedures can be highly technical, and varying the test can change whether a particular function or aspect of the appliance's use are reflected in the test. Changes in the testing procedure – while they do not affect the *actual* efficiency of the appliance – may well affect the *rated* efficiency. Finalizing the test procedures before considering the efficiency standard itself is the only way to ensure that all parties, regulators and stakeholders alike, have a common understanding of the meaning of the standard.

AGA appreciates the opportunity to submit this statement to the subcommittee on this issue of critical importance to consumers and to the natural gas industry. We encourage the subcommittee, in its oversight capacity, to continue to monitor the development of appliance energy efficiency standards at the Department of Energy, and to encourage the Department to improve the implementation of its regulatory authority to better serve the public interest.